

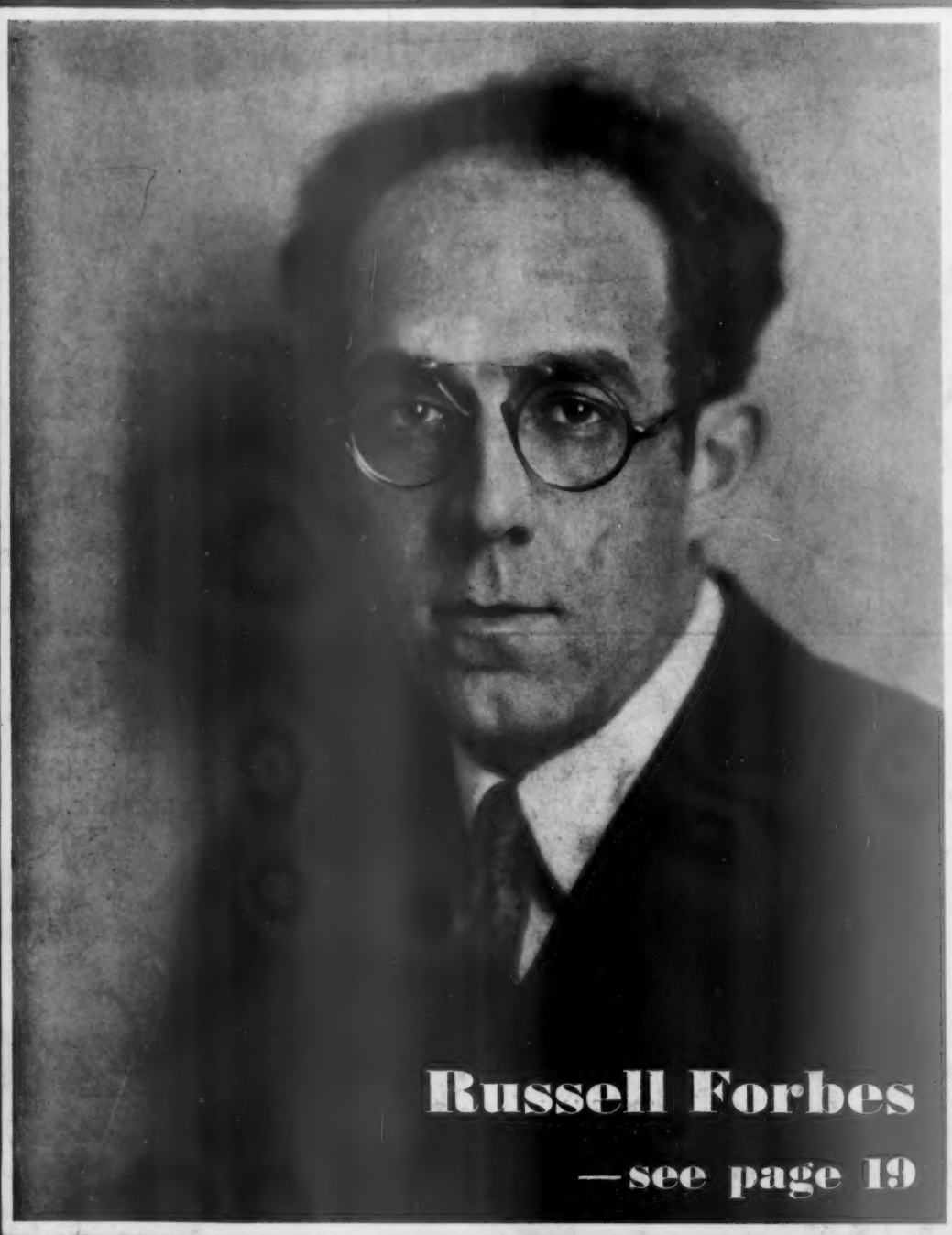
TECHNOLOGY DEPT.

First Copy

PUBLIC LIBRARY
FEB 20 1937
DETROIT

PURCHASING

CONSOLIDATED WITH • *The Executive* **PURCHASER**



Russell Forbes

—see page 19

Vol. V No. 2

FEBRUARY 1937

THE COMPLETE LUNKENHEIMER LINE

Immediately Available

From Distributors Conveniently Located to Serve You



VALVES

Bronze, Iron, Steel; Globe, Angle Cross, Check, Gate, Throttle, Non-return, Blow-off, Pop Safety, Relief, Whistle, etc.

BOILER MOUNTINGS

Non-return, Pop Safety and Blow-off Valves; Water Columns, Water Gauges and Gauge Cocks, Low Water Alarms, Fusible Plugs.

LUBRICATORS

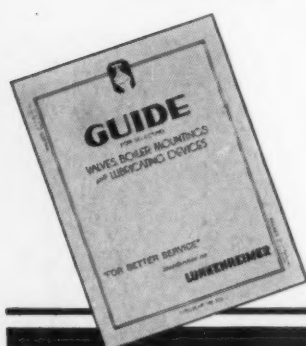
For Steam, Gas, Gasoline, Oil, Compressor and Pump Cylinders; Gravity Feed or Hydrostatic.

OIL AND GREASE CUPS

Glass, Bronze or Aluminum Body Oil Cups; Automatic Feed, Cap or Plunger Screw Feed Grease Cups of Bronze, Iron or Steel.

Whistles, Cocks, Fittings, Unions, Air Nozzles, Etc.

The Guide is a ready reference for selecting Valves, Boiler Mountings and Lubricating Devices in which products are grouped by pressure, type and use. The catalog describes and lists the Lunkenheimer line. Ask the distributor for copies or write us direct.



THE LUNKENHEIMER CO.

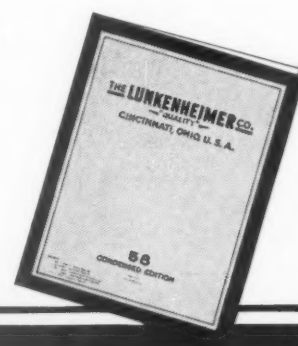
"QUALITY"

CINCINNATI, OHIO, U.S.A.

NEW YORK CHICAGO

BOSTON PHILADELPHIA

EXPORT DEPT. 318-322 HUDSON ST., NEW YORK





WITCHES' CAULDRON —MODERN STYLE

A typical example of Goodrich improvement in rubber

BANG! Gouging, crushing—another ton of scrap iron is hurled into 3,000 gallons of boiling acid, to be dissolved in the making of ferric chloride. The tank has been standing it 4 years, without a leak or a penny for repairs.

Formerly all such tanks were made of wood—the only material that could begin to stand the punishment. But the wood soon leaked—wasting acid, endangering workers, causing constant repair expense until it had to be replaced.

Then Goodrich found a way to attach rubber to steel with an inseparable bond. Immediately the chemical industry and a dozen more seized upon the discovery. Now chemical process, storage, steel pickling and plating tanks are made of sturdy steel, lined with Goodrich rubber sometimes sheathed with brick.

The special Goodrich bond never comes loose . . . and these Goodrich tanks never leak, need no repairs, and apparently will last indefinitely. Where-

ever Goodrich tanks are used, costs are cut, safety is increased, maintenance is saved, depreciation reduced to the minimum . . . typical results of the use of any Goodrich product—belting, hose, packing—because Goodrich research is constantly making every one of them a better product—a better value for industry. The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.

Goodrich
ALL products *problem* IN RUBBER

PURCHASING

Established 1915 as "The Purchasing Agent"
Consolidated with "The Executive Purchaser"

Contents for February

**Next Month:
Utility Buyers'
Conference**

Published monthly by
BOFFEY PUBLISHING CO., Inc.
11 West 42nd Street, New York, N. Y.

STUART F. HEINRITZ.....Editor

Advertising Representatives
GEO. B. HOWARTH,
11 West 42nd St., New York
H. N. PICKETT,
2843 Hampton Road, Cleveland
D. N. CORTRIGHT,
209 Walnut St., Jenkintown, Pa.

The Cost of Purchasing	9
The Paradox in Cotton Textiles Robert C. Kelley	10
The Modern Science of Design requires a Modern Attitude in Purchasing Ralph N. Jacobson	14
In Memoriam: Lionel F. Boffey	opposite page 16
Reading the Business Barometers	17
Commodity Price Indices Harold A. Knight	
Silhouette Studies	19
11: Russell Forbes	
The Market Place	22
Obituary	31
Among the Associations	32
F. O. B.	38
Business Book of the Month	40
"Mass Consumption"	
Pipes of Pittsburgh F. R. King	42
Personalities in the News	46
New Products & Ideas	50
Index to Advertisers	55

Copyrighted 1937, Boffey Publishing Co., Inc.
Acceptance under the Act of June 5, 1934, at Easton, Pa., Authorized June 4, 1936



LONG DISTANCE RATES REDUCED AGAIN!

ON JANUARY 15, 1937

EIGHT reductions in about ten years have substantially cut the cost of Long Distance telephone service.

The latest reduction in Long Distance rates became effective January 15.

Many interstate rates, for calls of more than 42 miles, are reduced. These reductions apply to all day and to many night and all-day Sunday rates for such calls.

The reductions for the first three minutes range from 5c to \$1, depending on distance.

It costs less now to do business in distant cities—quickly, *personally*. It's easier for far-apart friends to keep in *close* touch.

Sample rates listed below indicate the downward trend during the last decade. Quality of transmission and speed of service have been markedly improved in the same period. The average time required to establish a Long Distance connection was over five minutes in 1926 — is less than a minute and a half today.

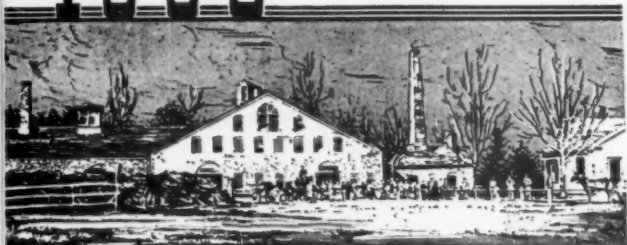


**HOW LONG DISTANCE RATES HAVE BEEN CUT
AS THE RESULT OF 8 REDUCTIONS IN THE LAST 10 YEARS:**

RATES FOR 3-MINUTE DAYTIME CALLS*		Station-to-Station		Person-to-Person	
From	To	January 15, 1926	Jan. 15, 1937	January 15, 1926	Jan. 15, 1937
Cleveland	Detroit	\$.65	\$.50	\$.80	\$.70
New York	Washington	1.35	.85	1.65	1.20
Chicago	St. Louis	1.70	1.00	2.10	1.35
Detroit	Washington	2.50	1.30	3.10	1.75
Philadelphia	Asheville	3.15	1.55	3.90	2.05
Buffalo	Nashville	4.15	1.95	5.15	2.60
Chicago	Dallas	5.05	2.30	6.30	3.00
Boston	New Orleans	8.60	3.75	10.75	4.75
Baltimore	Salt Lake City	11.90	5.00	14.85	6.75
New York	San Francisco	16.50	6.50	20.60	8.75

* Night and all-day Sunday rates are still lower

1850



87 Years of Continuous Service to Industry THAT'S SOMETHING!

For a manufacturer to survive, with the same interlocking management, eighty-seven years of "panics," "booms," and "depressions" indicates *vitality*. During that period it is only natural that sound judgment, mature viewpoint, plus practical and workable experience, are bound to be acquired.

To Bristol Brass Corporation, eighty-seven years of continuous manufacture of brass rods, wire and sheets has meant the constant development as well as accurate and definite knowledge of customers' requirements plus the satisfaction of producing brass that has made unusual contribution to countless products used in American industry.

The products of BRISTOL BRASS have been well and favorably known throughout the world for eighty-seven years—THAT'S SOMETHING.



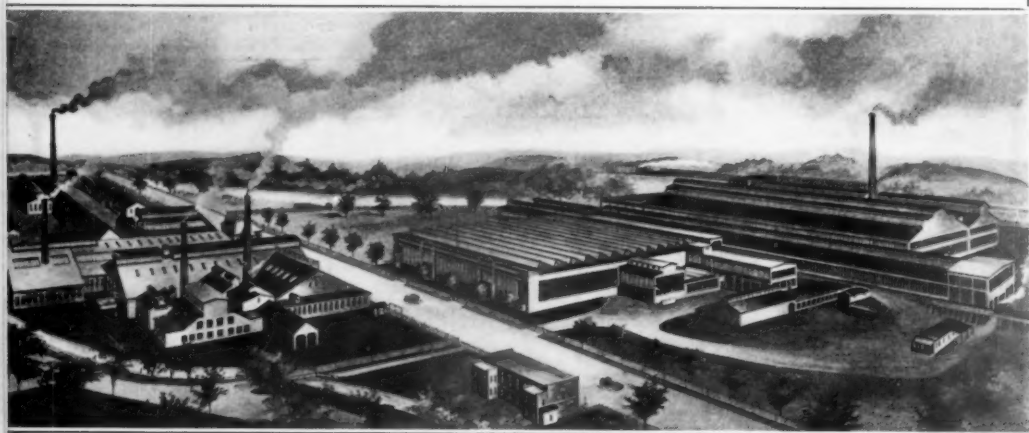
Rods - Wire - Sheets

THE BRISTOL BRASS CORPORATION
Plant and General Offices - - Bristol, Conn.

1937

Branch Sales Offices

Boston	-	Providence	-	New York
Cleveland	-	Detroit	-	Chicago



CLARK

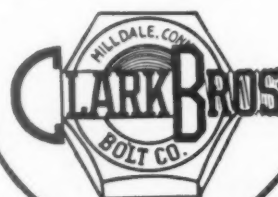


**Produced
and Packed to
Cut Your Costs**

CLARK BOLT products fit right into your plan for economy.

Their quality, accuracy and uniformity save time, eliminate rejections and insure satisfaction.

We carry large stocks of regular items and specialize in making "SPECIAL BOLTS".



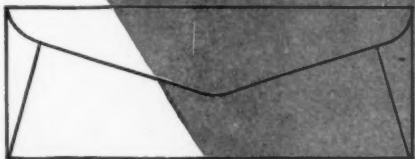
BOLTS

YOU PUT YOUR BEST FOOT FORWARD

WHEN YOU WRITE

Dear Sir

ON NEENAH BUSINESS STATIONERY



The simple facts about Neenah Business Stationery, attractively presented with sample exhibits in a convenient portfolio, will be sent upon request to executives who write on their business

stationery. Ask for "NEENAH BUSINESS PAPERS". Address: NEENAH PAPER COMPANY • NEENAH, WISCONSIN



THE BEST PAPERS ARE MADE FROM RAGS

FEBRUARY 1937

PAGE 5



For over fifty years Norton Abrasive research has carried on. Norton scientists solving vital problems of workers in iron, steel and other metals. They have created GRINDING WHEELS for thousands of operations for use in a million ways.

The Norton line of wheels runs from tiny mounted points $3/32'' \times 1/8''$ to gigantic pulpstones six feet in diameter, 54'' wide and weighing ten tons. There are many types of special wheels for special jobs—crankshaft grinding, roll grinding, surface grinding, tool grinding, internal grinding, saw and knife grinding and countless other operations.

If you have a grinding problem you can be sure that there is a Norton Wheel to solve it. Norton service includes highly-trained, practical men in the field and the laboratory—men who will see that you get the right wheels for your jobs.

NORTON COMPANY, Worcester, Massachusetts

NORTON ABRASIVES



CONTAINERS ARE LABORATORY PRODUCTS

MILE upon mile of containerboard rolls off the driers in Container Corporation's mills every day—yet laboratory tests and scientific technique control its characteristics.

Traditional methods of manufacture and rule-of-thumb "tests" have disappeared from *Concora* plants. In their place have come laboratory-controlled production, the scientific determination of formulae, and precision measurements of containerboard qualities. From raw material to finished board, the laboratory rules—making it possible for *Concora* containerboards, liner, chip and straw, to be *pre-proved* for the jobs they are to do.

Such scientific methods—from formula to finished product—provide solutions to many a packaging and

shipping problem. Ask our representative to explain their importance. Or better—see them in action in the nearest *Concora* laboratory.

Clears up the subject of Corrugated Containers
Send This Coupon for Free Booklet That Will Help You in Your Buying

Container Corporation of America J-2
111 W. Washington St., Chicago, Ill.
Gentlemen: Please send me a copy of "The Corrugated Shipping Case."

Name _____
Position _____ Company _____
Address _____

CONTAINER CORPORATION OF AMERICA

GENERAL OFFICES: 111 WEST WASHINGTON STREET, CHICAGO, ILLINOIS
MILLS, FACTORIES AND SALES OFFICES AT STRATEGIC LOCATIONS



LET'S FIGURE IT OUT...

First-- We order all the steel from Ryerson and have it tomorrow. Quick production—rapid turnover. No depreciation—no obsolete stocks.

Second-- We save time and trouble. Time placing orders—time interviewing salesmen—time following orders—time waiting for shipment—time in receiving, checking and paying for the material.

—And better still, worry over meeting production schedules is eliminated. Ryerson has all steels well stocked ready for immediate shipment. An experienced organization, with special cutting, handling and shipping facilities, gives added assurance against delay. When you need steel—call Ryerson—it pays.

If you do not have the current Ryerson Stock List, we will be glad to send it.

Joseph T. Ryerson & Son, Inc., Chicago, Milwaukee, St. Louis, Detroit,
Cleveland, Cincinnati, Buffalo, Philadelphia, Boston, Jersey City

Ryerson Stocks Include:

Beams and Heavy Structurals
Channels, Angles, Tees and Zees
Rails, Splices, Spikes, Bolts, Etc.
Plates—Sheets
Strip Steel, Flat Wire, Etc.
Stainless Steel
Hot Rolled Bars
Hoops and Bands
Cold Finished Shafting
Screw Stock
Extra Wide Cold Finished Flats
Alloy Steels—Tool Steels
Heat Treated Alloy Steel Bars
Boiler Tubes and Fittings
Welding Rod
Mechanical Tubing
Rivets, Bolts
Nuts, Washers, Etc.
Reinforcing Bars
Babbitt Metal and Solder

RYERSON

The Cost of Purchasing

PURCHASING agents as a group are frequently criticized, whether justly or unjustly, on the ground that they are familiar with the cost of everything except their own cost of doing business. The inference is that this hidden item of departmental expense so adds to the figures on the invoice as to make the purchasing organization an excessively costly luxury.

That attitude harks back to the classic but outworn philosophy of management that listed sales and manufacturing divisions as the "productive" branches of business, while all others represented a "non-productive" burden. The obvious refutation lies in the fact that large scale industry is increasingly adopting the centralized purchasing plan, employing and training specialists in the buying function to insure the prudent expenditure and investment of those important fifty-three cents of every manufacturer's dollar that go for materials and supplies. Theory and practice do not work at such cross purposes.

As a matter of fact, most purchasing agents do know what it costs to buy. We have just gone through a typical monthly analysis from a typical progressive purchasing department handling upward of two thousand orders a month. It shows a total cost for handling each transaction, from the requisition to the issuance of the order, amounting to 32.87 cents per order, and 21.17 cents per item. It shows a cost of 10.3 cents for each inquiry sent out, and 13.295 cents for handling each invoice received.

But that is not a true measure of departmental value, for it is offset by a multiplicity of items which are not capable of measurement for the simple reason that they do not occur, thanks to efficient purchasing procedure. A proper analogy for this situation is to compare the cost of operating a metered pipe line, as against the flow of an uncontrolled gusher with its incalculable waste.

Some of these factors may be enumerated briefly: savings resulting from the knowledge of when, where, and how much to buy; operating economies attained through the specification of proper and uniform quality; savings in the time of other executives freed from interruption and interviews; avoidance of losses through obsolescence and depreciation; reduction of inventory carrying charges through standardization of items and central control of stores; quantity prices through combination of related requirements; steady operation made possible by a steady flow of materials. The list could be expanded to much greater proportions.

The cost of purchasing becomes a non-productive burden only when the departmental budget isn't big enough to do a complete job, and when these elements of real tangible loss creep into the cost of procuring materials. Many a plant that "can't afford a purchasing department" is paying dearly for this lack of management vision, particularly with the rising prices and scarcity of spot supplies that characterize the present sellers' market.

Sales and production departments have long recognized the wisdom of spending money to make money, and the expense of promotion and modernization is not counted a burden. An equal, if not a greater, opportunity exists to save money by spending money in the development of an adequate buying organization. That policy will be a major profit source during 1937.

STUART F. HEINRITZ, EDITOR

The Paradox in Cotton Textiles

The present market situation must be viewed in the light of conditions and developments over a period of several years past. Purchasers of textiles for industrial uses have particular cause to study the picture from every angle

ROBERT C. KELLEY

Purchasing Agent
Converse Rubber Company
Malden, Mass.

Chairman, Textile Committee
N.A.P.A.

(Photos by Ewing Galloway)

"Typically the cotton textile industry is a non-integrated one. Not only has the marketing been separated from production, but grey goods production has been separated from finishing. The merchandising job has been divided and the various parts shuffled about among various types of institutions. The result of this shuffling is a lack of centralization of merchandising responsibilities, a confusion of activities, and a lack of constructive merchandising policies. This condition contributes to industrial instability."—from *Harvard Business School Research Study on "Merchandising of Cotton Textiles," March 1933.*

" We have no outside controlled market for our production. Our domestic market is changing rapidly. The demand of the market of today is for finer qualities, greater individuality in style, and a closer relationship between the fabrics and the ultimate uses to which the fabrics are to be put.

"It is this fact, rather than the present economic situation, that has wrought so much havoc in that part of the American cotton industry devoted to the class of fabrics designated as staples. Up to recently, there has been a constant increase in spindlage, of cotton consumption, and of money value of the product, which

somewhat obscures this change in the demand of the market; but we have to take into consideration that other factors have entered into this situation also. For example, it is estimated that the tire industry, which has nothing to do with style or apparel, absorbs almost a million bales of cotton a year. In addition to this, there is the increase in the use of fabrics for mechanical purposes, such as electrical insulation, and there are other factors, namely the habits of our mechanical population to wear a special form of clothing known as work clothing, and the need of cotton for bags and so forth.

"If we deducted this part of our cotton production from the great total, it would be clearly evident that the manufactures of staple fabrics are working against a market that is declining and must eventually almost entirely disappear. For the last fifteen years, even during the period of our most unexampled prosperity, few of the larger groups of cotton mills made money. The period in which the automobile, the electric ice box, the radio, and the vacuum cleaner had such a ready market in America found the cotton industry in deplorable condition. Liquidation in this industry was arrested temporarily by the interruptions of the world war, which gave an opportunity to many factories to make an enormous profit out of this far-reaching and devastating tragedy. If it had not been for this interruption, there is no doubt that the liquidation which is now proceeding at so rapid a rate would have been over five or ten years ago.

" Many experts in modern accountancy claim that the entire textile industry does not contain a sound principle of cost finding. This statement may be sure; as it may be the fact that much of the present liquidation is really a deferred depreciation in values, and dividends and profits have been paid in the past which should have been used to write off machinery and mill buildings and to create funds for technological and market advances. But it would seem that these phenomena always occur in an industry which is working at cross purposes with its market."—*M. D. C. Crawford, textile economist, Fairchild publications, in 1932.*

THE writer quotes from the two authorities above, because he knows of no better way to focus before the industrial buyer of textiles the basic background in the industry which furnishes one of the important major items of purchase to many of us in varied industries. Briefly, let us trace the course of the industry during the past four years since the above studies were made.

The first major change came after the inauguration of President Roosevelt in 1933. The introduction of the NRA found the cotton textile industry faced with an abrupt change from a 60 hour week for labor and a 120 hour week for machinery to a 40 hour work week

and 80 hours for machinery, with minimum wages of \$12 in the South and \$13 in the North. Simultaneously came the imposition of the cotton processing tax of .042¢ a lb., and the prices of cotton textiles jumped 150%. In the rush to cover during that hectic period the market overbought, however, and during the fall of 1933 values fell off. Additional consumer resistance was met in 1934 with the result that extensive curtailment of production was made, with labor becoming so dissatisfied that the textile strike was precipitated in September 1934. 1935 saw little change in conditions although prices were fairly stable until the repeal of

NRA and the start of active resistance to the processing tax, with the mills refusing to pay taxes, or depositing them in escrow with the courts. From June on, in 1935, we were buying not textiles but protective clauses in case of the tax repeal, with the constant threat that some units would lengthen hours or reduce wages although the industry generally re-affirmed adherence to code wages and hours.

The next crisis came on January 6, 1936 when the Supreme Court declared the processing tax unconstitutional, and values took another drop by the amount of the tax although much resistance was encountered on many constructions where prices were already said to be below cost. Print cloths which had been selling at $6\frac{3}{4}$ to $6\frac{7}{8}$ with the tax became 6 cents, and during the resulting wrangles over refunds and lack of buying the price sank to 5 cents a yard in May 1936, the lowest since pre-NRA days.

All of the above factors during this period had unconsciously made the buyer conservative in his operations. Mills were overproducing, stocks were ample, and purchases in the nearby and spot markets seemed the safest. During this period, the influence of cotton on the price of goods had been negligible. True, the market move of last summer on grey goods was helped by the rise in cotton, occasioned by the drought, but at the present time, outside of rather high premiums on the longer staples, raw cotton looks like a sidewise affair for the next three or four months.

With this background of instability, what do we find today? A market which has hardly stopped to catch its breath since last June when the movement started. The industry is entering 1937 with 30% of its output for the entire year sold; mill margins are the highest since 1920; mill profits the greatest since 1920. What is the answer? Has the leopard changed its spots? Take a look at the picture on print cloths.

MANUFACTURING MARGIN* PRINT CLOTHS

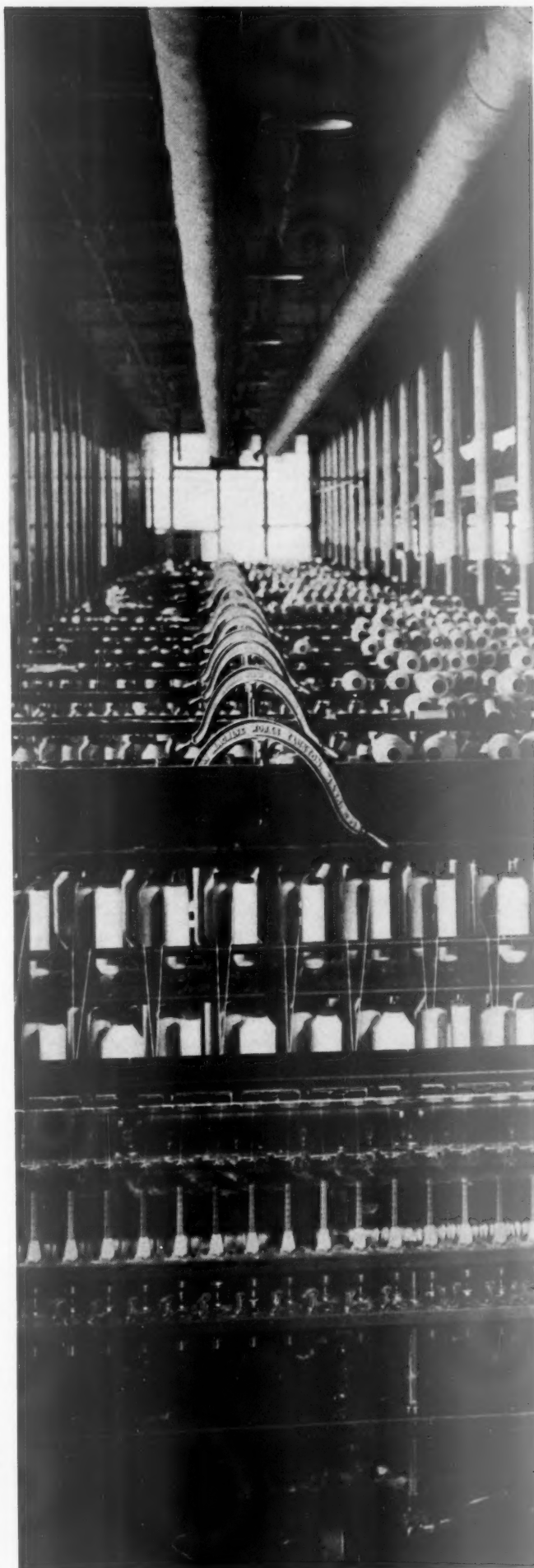
Crop year	Monthly average (cents per lb.)
1925-26	18.77
1926-27	18.28
1927-28	17.32
1928-29	16.33
1929-30	14.10
1930-31	14.62
1931-32	10.80

*This average manufacturing margin of 27-inch 64×60 , 7.60 yards, $38\frac{1}{2}$ -inch 64×60 , 5.35 yards, and 39-inch 80×80 , 4 yards, print cloth measures the total spread between cost of cotton in cloth (cost of cotton in bale plus 15% allowance for waste) and the selling price of cloth.

Today's margin figured on the same basis is 27.42 cents!

While the picture on sheetings and drills is not quite so startling, approximately the same relative improvement has been made. Heavy ducks and coarse mechanical fabrics have not had such a generous increase, however.

Where has this pent-up demand for goods come from?



Well, first of all let's look at the past record of textile's customers and see who they are:

1. *Converters*: Those who process cotton fabrics for resale on a yardage basis. This group accounts for 33.8% of the yardage and is textile's biggest customer.

2. *Garment Cutters*: Those who manufacture goods for apparel use, the principal component of which is cotton fabric, including aprons and dresses, children's and infant's wear, overalls and work clothing, shirts and collars, underwear and night clothing, etc. This group accounts for 14.7%.

3. *All other manufacturers*: Those who manufacture a product for resale wholly or largely of cotton fabric for other than apparel use, divided into

(a) *Primary manufacturers*: bag manufacturers, buff manufacturers, bias binding, curtains and draperies, filter cloths, flag manufacturers, glove and mitten manufacturers, handkerchief trade, hospital and surgical trade, shade cloths, sheets and pillow cases, tents, awnings, sail cloth, and tarpaulins, accounting for 18.3%.

(b) *Secondary manufacturers*: (fabric not the chief component part) abrasive manufacturers, automobile trade, backing and bookbinding trade, electrical trades, furniture manufacturers, mattress manufacturers, oil-cloth and manufacturers of pyroxylin coated materials, rubber and tire manufacturers, rubberized and linoleum fabrics, and shoe manufacturers, accounting for 6.6%.

4. *Wholesale and Specialty Jobbers*: Those who buy cotton goods for resale without processing or performing any service on the goods other than dividing them into smaller units,

(a) dry goods wholesalers and specialty jobbers, accounting for 13.2%.

(b) chain stores, department stores, mail-order houses, and syndicate buyers accounting for 7.6%.

5. *Export*: 3.6%.

6. *Consumers*: Those who buy cotton fabrics for personal or business use and do not resell them in any form, e. g., hospitals, institutions, etc., accounting for 2.8%.

(Source of data: *Research study, Harvard Business School.*)

Now let us take a look at the equipment available to supply the demands of the above customers:

Products requiring special looms	Looms in place
1. Toweling	15,000
2. Bedspreads	4,000
3. Blanketings	5,000
4. Pile fabrics and corduroys	8,000
5. Wide bedsheetings	27,000
6. Wide industrial fabrics	20,000
7. Pillow tubing	4,000
8. Cotton duck	12,000
9. Jacquard Fabrics (not included above)	7,000
10. Box-loom goods (not included above)	35,000
11. Tire fabrics	4,000
12. Narrow fabrics (18 inches and less in width)	10,000
Total	151,000 or 26%

Products made on looms which are interchangeable within certain broad limits:

13. Fine goods (combed and fine carded yarn goods excluding box and jacquard)	113,000
14. Print cloth yarn and medium carded yarn goods (including colored goods woven on single box looms)	162,000
15. Sheeting yarn and coarse carded yarn goods (including colored goods woven on single box looms)	165,000
Total	440,000 or 74%

To this grand total of 591,000 looms should be added 50,000 looms in group 13 now weaving rayon but which could be transferred back to cotton.

(Source of Data: "Profits and Losses in Textiles" by S. J. Kennedy, Harper Bros., 1936.)

In a short article of this kind there is not space to go into any complicated analysis of these figures, but there are many pertinent facts which the buyer of industrial cotton textiles should realize. Let us look at both supply and demand and briefly enumerate some of them.

Supply

1. Government purchases. The government has been a large purchaser of textiles for WPA sewing projects, relief, and CCC camps for several years. At times their purchases have been estimated to have approximated 10 to 15% of the total yardage in production, and much of the yardage has taken up the wide looms of which there is not a too plentiful supply as you can see from the above figures. The government was also instrumental in cleaning out stocks of printed goods and flannels, many of them in obsolete patterns, from many mills.

2. The processing tax on cotton, which was in effect from August 1, 1933 until January 6, 1936, acted as a brake against accumulation of excess stocks as many poorly financed mills could not afford to break open cotton and pay the tax when they had no orders for goods.

3. The constant scrapping of spindles and looms which has been going on ever since the war has apparently finally reached a point where its effect is being felt. The closing down of large units like the Amoskeag and the Consolidated group have also helped to reduce production capacity.

4. Many of the mills which have liquidated during the depression have passed into consumer hands. Most of the large tire companies now own their own mills for making fabric, and the surgical gauze manufacturers have acquired several. This has forced the producers of these goods to seek other outlets, as the demand from the smaller consumers has not been enough to sustain production.

5. Rayon. The tremendous strides made in the acetate industry should not be overlooked. Many mills which formerly made fine cottons have turned to rayon, which has been so improved in quality and



appearance that it is rapidly displacing silk in garments. The rayon industry is badly oversold at this time, so that there is no chance of any of these looms being converted back to cottons.

6. While the 80 hour week, inaugurated with NRA, meant an increase in production for some of the northern mills, for most of the southern mills it meant a cut in production from 120 hours. The vast majority of mills are still holding to these standards, which means less production in the aggregate.

Demand

1. The return of high industrial activity and greater spending power, has apparently influenced textiles to a large degree. Of course, more men at work means more work clothing, sheets, pillow cases, cotton blankets, shirts, pajamas, print dresses, in fact, all kinds of clothing wants.

2. The automobile trade is a large consumer of wide cotton textiles, and has of course, been enjoying a large volume.

3. Long accustomed to rely on the large nearby stocks to carry them over their peak seasons, large textile buyers like the converters groups found themselves bidding for goods which were not available, and forced themselves to buy ahead, placing premium prices on spot deliveries.

4. Retail stores were also unprepared for the increased volume, and for the first time in many years found nearby merchandise unavailable, being forced to buy ahead.

Even the most sanguine observers in Worth Street expected a lull after the first of the year after several months of feverish activity. But to their amazement the buying came in with renewed vigor, and prices

have gone even higher, with the deliveries being extended to July and August.

What's the answer? Cotton textiles have had these feverish markets before, although not so sustained in recent years. Textile production, however, is not like steel where furnaces can be taken out of blast overnight. Once the warps are drawn in and the cloth is on the looms, it is not easy to divert from one construction to another or to shut off the production. It is just possible that in several months time, many of the large buyers will find the goods coming at too rapid a rate to be absorbed, and the word to "hold up" will be passed along the line. Then some of the goods in inventory, which are being hoarded for fear of shortages, may come back to market in the familiar "second-hand" selling.

The industrial user of textiles is not the favored customer in times like these. The most successful textile organizations today are integrated to market through retailers. They advertise their towels, sheets, pillow cases, and ticketed textiles to the consumer, wrap them in fancy wrappings, style their merchandise, and make greater profits than they can possibly reap by marketing grey goods to the industrial user for processing into some non-textile product. The user of impregnating flannels, for example, finds his source of supply making flannels for the nightgown and pajama trade at a much higher price per pound than the reprocessor can pay. Looms are now being sold to the highest bidder; profit-starved cotton mills are making hay while the sun shines.

Even when the buyer makes a forward purchase, he is not sure what the final cost will be. Threats of new NRAs, the Ellenbogen bill to control the textile industry, and so on, are big bogey men to the textile

Continued on page 48

The Modern Science of Design *requires a Modern Attitude in* **PURCHASING**

THE WORLD is industrial-art conscious. What, if anything, does that mean to the purchasing agent? Let us first glance for a moment upon the task of the purchasing agent in instances where infringement of this new vital business force has not affected him as yet.

In repurchasing standard materials to go into manufacture of products of old established design, the purchasing agent's task settles down more or less into routine broken only by occasional disruption of price, quality, or source of supply of the materials.

Production and design departments can to some extent be expected to keep up with development of new materials to obtain structural or functional advantage in the manufacture of their products. They cannot be expected to keep up with all the new materials offering enhancement of appearance.

The first effect of the present markedly increased tempo with which finer appearing materials are being offered is to complicate the task of the purchasing agent in selection and substitution of materials. He finds himself increasingly useful if he be alert to discovery of newly offered materials possessing the potentiality for enhancing the appearance and salability of his company's products. Often the new materials can be incorporated with little if any change in the mechanical design of an old-established product; but frequently more or less complete redesign is dictated.

Don't be hoodwinked by the superficial aspects of so-called "modernism" that ignore the basic functional purposes of the designer's art

RALPH N. JACOBSON

Purchasing Agent and Assistant Manager
Federated Metals Division
American Smelting & Refining Company
San Francisco

President
Purchasing Agents' Association
of Northern California

In this redesigning of products, the purchasing agent performs, or should perform, a markedly important function. Whether that redesign is caused by his initiation in an effort to modernize the styling or whether it be for purely mechanical purposes, industrial art design is an important factor. This applies, of course, to designs of entirely new products as well as to redesigns of the old product.

The purchasing agent always had to consider what raw materials would be best suited to the new product, where they can be obtained, what they will cost, and what are the best alternates or substitutes. In the past he has not usually been forced to complicate his problem overmuch with considerations of effect upon appearance, for it was always possible in the past to just putty the holes, slobber paint generously over the

product, nickel plate the trim, and let it go. Modern industrial art designs allow no such easy way out. The day of dressing up a sloppy looking structural design with superficial decorations or hiding it under a useless cover is about done. The fine industrial art design of today for the most part, is so coordinated with functional structure as to weld the two into an integral whole.

Let us have consideration of the purchasing agent for a moment to consider the how, where, and why of this new industrial art trend. In the not-distant past, art was something we went out for in our idle moments. By joint consent of the artist and business man, it was in a realm so far from business that the two were not to be uttered in the same breath. To the artist, the business man was a "crass materialist," and to the business man the artist was "that peculiar fellow."

Today, we see that the so-called *moderne* artist has by his very extremist conceptions taught the business man that there can be artistry and, surprisingly, enhanced salability in unornamented but well proportioned mass, shape, and composition of commercial articles. The business man has shown the artist that there can be true artistic beauty in so material a thing as a well-designed aeroplane. And so for better or for worse, art has gone into business.

There is more, however, to the how, where, and why of art in business. Art had always, partly by sufferance, been tolerated in architecture. Seldom in the recent past had it been anything other than imitative. Our buildings aped Greek, Roman, Classic, Neo-classic, *et al*, periods of art, with conscientious disregard of propriety long after new materials and technique of construction should have dictated creations of new artistic forms.

Size of beams and columns dictated by the stone of old Greek temples became so useless and costly in a modern steel structure, that sheer force of economic structural circumstance finally forced a change. That change in modern architecture is characterized most markedly by the effort to coordinate beauty directly into the materials and structure of the building. Modern industrial art design parallels that architectural ideal. In this new architectural setting of functional design, conventional furniture and equipment appeared incongruous and other fields of engineering were called in for consultation on this ever growing problem. They in turn were subject to the contagion until finally the industrial arts design engineer was developed to integrate this growing fund of specialized knowledge.

Another significant incentive to art in business has been supplied by the advertising profession. As the machine has during this past century changed our economic status from the scarcity to the surplus economy, the necessity of placing the products of the machine in hands

of consumers became a serious problem. The answer lay in advertising, which developed over the years from the crudely printed announcement of wares, to the advertisement of today in which illustration, typography, and color have been skilfully blended into a



R. N. JACOBSON

complete composition which has eye appeal and successfully develops the urge to buy. From the printed page, the commercial artist turned his attention to packaging, and the buying public became so accustomed to new design in these forms that it readily accepted the application of design to utensils, equipment, and all manner of things.

Another important phase of this general subject of new design can be traced to military necessity, which two decades ago spurred the development of the aeroplane. There, the engineer soon discovered that entirely new forms of functional design were essential to make the heavier-than-air machine practical. Quite incidentally, his structures developed outlines of beauty which captured the fancy of the world and so "streamlining" was born.

The growing use of plastics and die castings, the development of

monolithic structures, the economy of die stamping and other relatively new processes, all emphasized the advisability from a practical production viewpoint of simplicity in outline which is in itself one of the keynotes of this era. New substances (plastics, stainless steel, aluminum, plywood, etc.) which in themselves have beauty of color, texture or design, helped to discourage over-elaboration.

All of these forces at work, all of these materials and processes at the hand of the artisan, and a buying public in a favorable frame of mind—into that setting came the catalytic effect of the moving picture which placed before the eyes of the masses these new products and new designs in their most advantageous settings.

It is within the province of the purchasing agent to direct the attention of his company to the fact that the finest industrial art designs of products do not usually just happen. They are purchased in the form of services of a competent industrial-art designer. When that expense is not warranted, much can be contributed by the purchasing agent who takes the trouble to acquire some slight understanding of what is involved in industrial art design and who is aware of the ever new materials which can be purchased to assist that objective.

A word of caution is appropriate. There is a devastating tendency today—by sales departments especially in their influence upon new product design—to grasp the form but not the content of the new industrial art. And so, for example, we have streamline design today applied to anything from anchors to kitchen pots and toilet seats. In fact, the further the article is removed from the function of a body in motion through fluid, the more apt it is to be "streamlined" with emphatic emphasis. If there be one fundamental to this modern industrial art, it is that appearance be made at least consistent with if not actually a part of structure and function. Imitation is utterly inconsistent with the new art. Correct artistic design of any product is dictated

by its particular structure and function. Imitation in an effort to catch the public fancy for streamlining or some other fad leads to artistically bad design, acceptable only while it is commonplace, and hopelessly stale as soon as the public taste shifts. It should not be necessary to redesign most products every year or two with every passing fad or style. A well conceived industrial art design will retain its sales appeal. Like any other exhibition of fundamental good taste, it remains in style. It should be emphasized too, that complete absence of artistic design is preferable to poor design. All too many inherently fine-looking engineering structures or designs have been ruined in appearance by misplaced artistic zeal. It is a fact that the more perfectly a product is engineered the closer it will come to an artistic production, and the less industrial art treatment it will require.

Design consciousness on the part of the buying public has tempted many manufacturers to profit at the

expense of the uninitiated by foisting on them obsolete and inefficient products dressed up in the semblance of modern design. That is the cheap, quick way to immediate profits but rather unwise from the long range viewpoint. For, while quick profits are being grasped in this fashion, other more responsible and far-sighted industrialists are redesigning from the inside out. They are concerning themselves with the engineering fundamentals of their products and are producing equipment which is thoroughly efficient and in which beauty is only incidental to good basic design. When a product is offered to the purchasing agent, it is important to search below the surface to learn which of these two plans the manufacturer follows.

Compare on the one hand an obsolete type of office appliance now being offered in a new cabinet, by contrast with a well-known weighing device which has been completely redesigned using new forms of raw material and fundamental changes in structure. Both of these pieces of equipment look different, but only the latter has been improved. Compare, if you will, streamlining in a modern aeroplane with the automobile to which that same word is erroneously applied. In the first, the principles of aerodynamics have been applied; in the automobile the feeble attempts to achieve the form without the substance are rather pathetic. We cite as a specific example the "pants" over rear wheels, which are ugly and make tire changing more difficult. By contrast, note the housing around overhead valves, which functions to improve lubrication, eliminate dirt, and decrease noise, but which *incidentally* improves appearance of the engine. Lowering the center of gravity of the automobile is another indication of the manner in which improved engineering design can favorably affect appearance.

Where now we speak of design, we use the term as does the engineer. It applies to the functional purpose of each member of the device and the relationship of the members to

each other. The visible portions of the device are, from the engineer's viewpoint, functional parts of the design and not merely fancy clothing to conceal defective engineering. To achieve beauty by these standards, then, a device must have gone through the three common stages of engineering development:

(1) The comparatively crude device which is operative and economically feasible.

(2) Additions to the original design which make it more efficient. (During this phase numerous parts and gadgets are added which complicate the design.)

(3) The final stage in which these additions are simplified, some removed entirely, others integrated, and the whole structure redesigned. The result is usually that of producing a less expensive, more efficient, and more slightly product.

An ancillary purpose of this article is that of cautioning the purchasing agent to beware of the product which has entered stage (1) or (2) and is offered to him in a new dress at a higher price on the pretense that it has actually been redesigned as outlined in (3).

Insist that the vendor show in detail all of the changes that have been made in his product and explain the reason for each change. If it is not feasible to inspect the product itself, then drawings are necessary. Get away from the subject of appearance and down to the fundamental design. The vendor who has actually improved his product will welcome your method, but the seller who is trying to conceal his wares under a new disguise may not be so acquiescent. His attitude alone may give some clue to the quality of his goods.

A new folder issued by the Koppers Construction Co., Koppers Building, Pittsburgh, explains and gives a complete diagrammatic illustration of the new phenolate gas purification process for recovery of sulfur from natural and refinery still gases.

Bulletin 188-1 of the Foxboro Co., Foxboro, Mass., discusses the instruments and application methods for humidity control in a wide range of industrial drying and processing operations.



Abbott Bearing Balls have proved their worth to industry. But let your production men make their own tests. We'll gladly send samples.

- ... test them for SURFACE
- ... test them for TOLERANCE
- ... test them for STRUCTURE

When it's time to order, remember Abbott—for dependable bearings are the rule with Abbott Balls in the race.

THE ABBOTT BALL CO.
1058 New Britain Avenue
HARTFORD, CONNECTICUT

ABBOTT
BEARING BALLS

Lionel H. Boffey

December 22, 1886—January 13, 1937

JACK is gone—maybe he was “Boff” to you. Yes, his name was Lionel but you didn’t know him if you remembered it.

He defined the ethical standards for purchasing twenty years ago and militantly sponsored them through the frontier years of our profession. All business is now indebted to his vision and vigilance, for all representative business executives accept Boff’s ethical standards for business practices.

Few men would be willing to sacrifice as he did for his ideals and friends; few men could force their friends to make the sacrifice his going compels.

A combination of sentiment, emotion and intellect that just would not add up, Jack could not accept what others thought were the correct answers. Discussion and friendly controversy were always delightful mental calisthenics for him. Those not so close might be startled by his views, but his intimates understood the strange combination of unusual characteristics which influenced them. He would not compromise intellectually to get harmony or contentment. If Jack was right, he’s laughing at us.

Brilliant, emotional and generous Jack, his works will never be forgotten. The National Association of Purchasing Agents and many of the affiliated local groups were organized and guided by him through their most difficult years. What a monument to have, and what pleasure the successful development of these organizations gave him!

Several years ago we discussed a proposal I thought meant a lot to purchasing and purchasing agents. It had not been presented to our Executive Committee, and, with income and budgets shrinking, the five thousand dollars it would cost seemed a difficult barrier. Jack characteristically offered to underwrite the cost, if necessary, to secure its immediate acceptance and development. That was not necessary, but over the past years many of the most important studies and developments in purchasing were underwritten in that way, by Boff.

The professional standing of purchasing agents and the practical educational and ethical standards of purchasing were his life work; no man was ever more successful in such an undertaking, or more unselfish.

His work will continue to pay regular dividends to each of us, and now there is no opportunity to even things up. So long, Jack!

—G. A. R.



LIONEL F. BOFFEY was born in Exeter, Devonshire County, England, the son of the late William H. and Susan C. Boffey. His father was publisher of *The Southwestern World*, a daily newspaper in London, and later published *The Confectioner's Gazette* in New York City.

The family came to this country during Mr. Boffey's early boyhood. At 14, he went to sea as one of the pioneer apprentices in the American Merchant Marine on the *Acme*, a four-masted bark owned by the Standard Oil Company of New York, and spent about fourteen months in that service.

His first experience in industrial buying was as purchasing agent for the Jersey City plant of the Crucible Steel Company of America. This was followed by similar positions with the Standard Motor Construction Company of Jersey City and the Bosch Magneto Company of Springfield, Mass.

He left the latter position to found *The Purchasing Agent*, first national journal devoted to the field of industrial materials procurement, and served as publisher and editor of that magazine and its successor, *Purchasing*, until the company voluntarily liquidated in 1933. During this period he served five years as secretary of the newly organized National Association of Purchasing Agents, and was largely instrumental in formulating and putting into action the basic policies upon which that association has developed to its present stature and influence. Universally recognized as a leader of thought in purchasing circles, he was co-author, with E. T. Gushée of the Detroit Edison Company, of "Scientific Purchasing," published in 1928, and was the first recipient of the Shipman Gold Medal, awarded annually by the association for outstanding service to the purchasing profession.

In 1933 he was called to Washington, where he served as chief of the code division of the Consumers' Advisory Board of NRA, and was later appointed to membership on the Board.

For a time he was also vice president of the Union Towel Supply Company, of Jersey City. He never relinquished, however, his active interest and intimate associations in the fields of purchasing and publishing, to which his life had been dedicated. In March, 1936, he re-entered publication work as publisher of *Purchasing*, successor to *The Executive Purchaser*, and took up again the work he had laid down three years earlier. He was actively engaged in that enterprise at the time of his death.

He is survived by his wife, a son, Kenneth M. Boffey of the Newark News, and an infant grandson.



Commodity Price Indices

HAROLD A. KNIGHT

ONE OF THE MOST fundamental of business barometers is a composite or average of prices of wholesale commodities. Perhaps no subject of a business nature in the history of the human race has ever elicited more interest than as to what things cost. One can imagine the soldiers of Caesar's army sitting down between marches, discussing prices of olive oil, leather thongs, and maize. Today perhaps 20% of the conversation around the pot-bellied stove in the country store concerns prices of corn, beef, and chewing tobacco.

Some of the services which compile wholesale commodity prices weekly or monthly make elaborate and mystifying enigmas of their figures, what with their index numbers, weighted averages, and "adjustments" for this and that. Personally, your author prefers the simple indices, possibly because of his own simple-mindedness. Thus Dun & Bradstreet gives us indices in plain dollars and cents. Apropos, in the December issue of a popular magazine a writer has chosen the subject: "Debunking the Game of Bridge," in which he gives a cutting commentary on the "ex-

perts" and their unnecessary complications of the game. Commodity indices can also be too complex.

Commodities are frequently divided into two broad groups, industrial and agricultural. The first are those which are used in manufacturing operations, such as rubber, copper, and steel; while the second are obviously those distinctly of the farm, such as wheat, meats, and dairy products. Babson compiles two separate indices of both groups. It is interesting to observe that a graph of *industrial* commodity prices, at least, usually parallels a graph for business or industrial activity. In a less pronounced form commodity prices *generally* rise and fall as business flows and ebbs. Hence commodity prices are a good barometer of business generally.

Most of the commodity services use index numbers based on 100 equaling one year or small groups of years. A popular year for this purpose is 1926, which many regard as "normal." It will be recalled, too, that during the depression the Administration expressed the aim for prices to get back to 1926 levels. However it would seem more reasonable to take a group of years (the longer the span, the better) using the average prices for those years, which should be a truer normal than the price in any one year, though probably less practical.

Thus the composite price of copper over 30 years, ending with 1935, was 15.12¢ per pound; the average for 1926 was 13.93 cents. Does not the 30-year average seem more logical? Of course, in the early years of that span the cost of production was greater, yet ores were richer. A war came in this period, but are not wars normal episodes of life?

Weighted averages add some complications but are probably logical enough, the weights being based on quantities produced or consumed for some typical recent year or

**Next Month:
Retail
Sales**

The Principal Services at a Glance

Service	Number of Commodities	Number of Groups	Index Number 100 = Year	Feature
Bureau of Labor	784	15	1926	Elaborate in scope
McGill	129	15	1926	Promptness
Dun & Bradstreet	96	13	Total in cents per pound of 96 commodities *1913	No distortion
Annalist	73	8	1908-1912	Close to Bureau of Labor
Babson	87	4	1926-1928	Good presentation
National Fertilizer	456	14	1927-1929	Large number of commodities used
N. Y. Journal of Commerce	110	10	1926	Prices at first hand, prompt
Index Number Institute (Fisher's)	131	9		European prices, too

* To convert to a base of 1926 = 100, multiply by 0.66545.

years. Selection of commodities used is a nice art by itself. Some services will not divulge what commodities they use. Naturally the larger number chosen, the more accurate the final composite should be. Here care must be taken to proportion correctly the more stable with the more volatile ones. Thus in calculating metal averages too many metals like nickel, whose price has not changed for six years, must not be used, nor too many volatile metals like tin which change each day.

The index of the United States Bureau of Labor, the grandfather of them all, carried for many years the price of bar iron. However by 1900 bar iron was being replaced by bar steel mostly. A price differential between the two had to be worked out and an adjustment made. Old commodities frequently pass out and new ones take their place. Does one remember the buckwheat cakes of our ancestors for instance?

The indices of the Bureau of Labor were among the first in the field and are often taken as standard. In fact usually the reason for existence of those which came later was their weekly publication, as compared with the Bureau reports, which were issued only monthly and somewhat tardily besides.

Now that Bureau also issues weekly figures. Many of the newcomer services "spliced" their indices onto the Labor index which served as a background.

The Labor Bureau index is frequently revised and expanded. Thus it now represents 784 commodities as against 550 six years ago. Late last year the Bureau announced: "The purposes of the revision are to round out the list of commodities in the interest of more balanced coverage, to establish and follow more detailed description and specifications of items included in the price index, to modify the basis of quotations in accordance with changing marketing methods, to determine methods of index constructions and weighting appropriate to defined objectives, to develop methods for dealing with geographical variations in prices, to improve on the classification of commodities and industries, and to determine means of increasing the effectiveness of the published results." Naturally, with Uncle Sam's money and prestige behind the project, a good job can be done.

As to the relative merits of the various indices there was published in July, 1915, Bulletin No. 173, Bureau of Labor Statistics, on "Index Numbers of Wholesale Prices in the United States and

Foreign Countries," by Prof. Wesley C. Mitchell. The National Association of Purchasing Agents will bring out in February or March a pamphlet on Commodity Price Indices, much as they did in 1931, in which the main features of the various services were outlined.

There will be at least three newcomers in the new volume, the indices of the New York *Journal of Commerce*, the Associated Press, and Standard Statistics. The *Journal of Commerce* index has one advantage in that it has a large staff in daily contact directly with the principal commodities and does not get its prices second hand. Moreover it is an important source of prices for some of the other services. Thus the *Annalist* lists the *Journal of Commerce* as its source of quotations and weights for 34 out of 74 commodities.

The various complete indices are of course "services" which must be paid for by the year, or half year. Often brief weekly summaries of some of the services appear on the financial pages of the newspapers. Several of the services predict the future, which after all, is what many subscribers are most interested in. Other indices aim only to present the facts upon which subscribers can base their own opinion as to future trends.

In recent years, interest in commodities as an investment and speculative medium has increased markedly. During eras of unstable currencies and uncertainty as to the possibility of inflation many have regarded basic commodities as good refuges for investments.

POSITION WANTED

Industrial Purchasing Assistant available. Engineering School graduate, age 28. Three years factory tests and inspection. Past two years assistant purchasing agent and in charge of material control. Employed at present. Excellent background in industrial procedure and mechanical materials. Proven purchasing ability. Desires purchasing position with future, preferably in New England or Middle West. Address Box 201, c/o PURCHASING, 11 West 42nd St., New York, N. Y.

SILHOUETTE STUDIES

II: Russell Forbes

FIFTEEN YEARS AGO no one knew much about governmental purchasing, and very few were at all concerned about the matter. It was late in 1922 that Howard Heydon, then secretary of the National Association of Purchasing Agents, succeeded in getting a modest appropriation from his executive committee to finance a study of the subject. He approached the staff of the Institute of Public Administration, a training school for prospective city managers, and asked whether they had a student capable of undertaking the assignment. They had. A young Pennsylvanian who had enrolled only three months earlier had already impressed them with his capacity for hard work and his genius for intelligent and thorough research. Besides, he needed the money that the project would afford. Russell Forbes got the job. And thus a train of circumstances was set in motion that reached a dramatic climax in the recent municipal history of New York City.

Just ten years later, in the fall of 1932, Acting Mayor McKee invited Forbes, now recognized as the outstanding authority on centralized buying for government, to serve on a committee analyzing the purchasing system of New York City. Forbes had the unique satisfaction of seeing every one of the twenty-five recommendations that made up his report written into the law which is now a part of the city charter.

And one December morning in 1933, after the Hon. F. H. LaGuardia had won a sweeping victory at the polls to head a new fusion administration in the city, Forbes was offered the post of Commissioner of Purchase, to put into effect the law which he had written. Today he is in his fourth year on that job, controlling the expenditure of some thirty million

dollars annually for the world's largest and richest city.

RUSSELL FORBES was born on a farm near West Middlesex, Penna., on February 29, 1896. As 1900 was not a leap-year, his first birthday celebration did not come around until he was eight years old. That seemed a hardship at the time, but he has been too busy ever since to worry much about the infrequent recurrence of the anniversary.

The youngest of five children, he was early initiated into the business of operating the 250-acre farm, and when he was about fifteen he took over the responsibilities of management while his father and older brothers developed a lumber business as a side line. He was intensely interested in the work, and the results he achieved would have done credit to a more mature and experienced agriculturalist. He recalls with pride that he was able to raise more bushels of potatoes per acre than anyone else in the county.

Mercer County had just engaged a young graduate of Pennsylvania State College as farm agent. That plan is commonplace now, but it was a real innovation then—the very first or second county to take such a step. Young Forbes and the new agent became fast friends. Together they organized the first Young Farmers Club, and Russell served as its first secretary and second president. As the influence and accomplishments of this pioneering group became known, stimulating interest in progressive methods of farming, the lad was called upon to go from one end of the State to the other telling what Mercer County had done. He addressed county groups, summer camps, and one large gathering of more than a thousand eager young farmers assembled at the State

College. The work expanded and became State-wide in its scope.

A high-school course involved a daily three-mile walk to school, but this was willingly undertaken by the ambitious youngster. He continued to operate the farm throughout this period and for several summers thereafter, during his course at Westminster College. Forbes had to work hard to make a college education possible. The first year was financed by selling lice powders, stock and poultry feed to his neighbors. In his Sophomore year he obtained permission to open a book and supply store, a project which he carried on profitably for three years. Nevertheless he found time to engage in dramatics and debating, and to compile a creditable record in his studies, among which the classical languages claimed his chief interest.

HE GRADUATED with the war-time class of 1918 and promptly went into the service as a private in the infantry. This brief military experience was terminated by the armistice. At the suggestion of a former instructor he went on to Colorado College in December, and in spite of this late start for the academic year he won his M. A. degree in June, 1919. At this time he seemed headed for a career in education. He taught English for a year at the University of Maine and was reappointed for the following term.

However, during the summer vacation he was persuaded to accept an appointment as secretary of the newly organized Chamber of Commerce at Mercer, the county seat. For two busy years he stayed in that job, forming and directing a Merchants' Association, organizing troops of boy scouts and girl scouts, and engaging in similar activities of a civic nature. Being close to the seat of the county government,

his interests were gradually drawn to the vital problems of public administration, and he resolved to make this his life work.

Always an advocate of sound and thorough preparation, he came to New York in the fall of 1922 for his basic training, and within three months of his enrollment in the Institute of Public Administration he was embarked on his special study of governmental purchasing, as mentioned above, and was spending a part of his time regularly in the offices of the N.A.P.A.

THE STORY OF THE next five years is familiar to most purchasing men. The special study went on, uncovering a wealth of information regarding public buying methods, some of which were reasonably adequate but with many more utterly inefficient and shackled by political considerations. New vistas of public service by the improvement of buying methods were opened.

When W. L. Chandler succeeded Heydon as N.A.P.A. secretary in 1923, Forbes was named assistant secretary and devoted his entire time and energy to association work. He took on much wider and more general responsibilities, spending a great deal of time in the field as contact man for the national office. Eager and friendly by nature, diligent and unswerving in his adherence to principle, he quickly won the respect and warm friendship of the membership at large.

Many of his assignments were not easy. He had to face disgruntled groups in which local considerations were placed above the broader aspects of professional welfare; to justify, and sometimes even collect, the portion of dues which went into the national treasury. In such difficult situations he generally succeeded in winning not only the point at issue, but the wholehearted support and personal loyalty of the men with whom he dealt. It is safe to say that Forbes cherished these friendships more than the tactical victory, but it is characteristic that he never played favorites or compromised his pur-

pose in order to curry favor. Because they were firmly grounded in mutual respect, the friendships have endured. His talent as an organizer, early demonstrated in the Young Farmers Clubs, was turned to good use in the formation of new association groups in several cities.

For a time, under the pressure of these varied activities, the governmental purchasing project was relegated to secondary importance. But not for long. Forbes' enthusiasm for the subject was contagious, and the facts disclosed by his survey were compelling. The attitude of the association changed from lukewarm interest to professional zeal. With a quickening public consciousness of the need for greater efficiency in governmental administration, the advantages of centralized purchasing organization were assuming a new significance. Forbes, as the one man best informed about the subject, was called upon to draft laws and ordinances for cities, counties and states in every section of the country. With speeches and widely circulated newspaper articles, he took an active part in the campaign for centralized purchasing in Ohio, at Tulsa, and elsewhere, working with the cooperation of local association committees. Much useful work was accomplished in this way. Forbes' influence can be traced in a score of progressive and workable charters and statutes, and he acquired a national reputation as the outstanding expert in his field.

IT WAS A UNIQUE and flattering position for a young man just turning thirty, but it did not blind Russell to the larger objective. In 1927, for the second time, he resigned a useful and congenial position to resume his basic studies in government, this time at Columbia University. After two years of intensive work, he was awarded the Ph. D. degree. His thorough research in public purchasing practice, and the conclusions which were now supported by practical legislative experience, formed the basis of his dissertation, and were published by Harper's in 1929 as

"Governmental Purchasing," the standard text book and reference work on the subject.

Even before his studies had been completed, his services were again in demand. In 1928 he took charge of the Municipal Administration Service, a clearing house for research and information applicable to city government, maintained by the Rockefeller Foundation. Subsequently he also served as secretary of the National Municipal League and of the Governmental Research Association, which included in its membership staff members of governmental research bureaus throughout the nation. Concurrently he was lecturer on Municipal Government at New York University and continued to serve as an expert consultant on purchasing organization and reorganization in Maine, New Jersey and North Carolina, in the Borough of Queens, the City of Newark, and, most significantly, for the City of New York.

In 1933 he relinquished his diverse administrative activities to accept a full professorship in Government at New York University. Part of his job was the establishment of a research bureau and training school for municipal officers.

IN THE FALL OF that year, New York City was plunged into a rousing political campaign, with the Hon. Fiorello H. LaGuardia as standard bearer for a fusion party pledged to a policy of honest and businesslike administration. The issue was close to the heart of the young Professor of Government who had just seen his recommendations written into the city charter, but who knew how those provisions might be vitiated by improper administration. He allied himself actively with the fusion forces, was co-author of the campaign handbook, and trained hundreds of inexperienced campaign speakers in the fundamentals of the fusionists' creed. LaGuardia was elected Mayor of New York, and one of his first acts was to appoint Forbes as Commissioner of Purchase.

The transition from theory to practice was made under extraordinarily difficult circumstances. Going into the biggest municipal purchasing job in the world, Forbes literally had to start at scratch to build an organization, establish sound and effective methods, and sell the idea of centralized purchasing to departments and bureau heads who had long enjoyed and jealously guarded their privilege of independent procurement of materials. The task was immediately complicated by added responsibilities in purchasing for CWA and TERA, and for an expanding program of local relief. At the same time, the regulation of vendors' sales methods and prices under NRA codes presented new complications and headaches.

One thing the Commissioner could depend upon—100% confidence and support by the Mayor and his associates. Undismayed by the tangle of red tape and the urgency of meeting day to day requirements from the very start, he drove steadily ahead with his seven-fold program: an unimpeachably honest administration, bulk purchases and wider competition, improvement of the contracting procedure, centralization of a scattered stores system, utilization or sale of surplus materials, modernization of specifications, and development of an adequate accounting system.

GOING INTO HIS fourth year on the job, Forbes prefers to regard his record as one of progress rather than of achievement. From the vantage point of an outside perspective, however, his accomplishment has been nothing short of extraordinary. The N.A.P.A. recognized that fact in awarding Forbes the Shipman medal for outstanding service to the profession. Some of the department heads who accepted the purchasing service reluctantly and sullenly three years ago, are now ready to give their testimony that quality of materials is better and supply more dependable than ever in the "good old days". The dollars and cents savings are impressively reflected in

the City's financial status. The department which once was a proper object of criticism and scorn, may now well serve as a model for any project in municipal administration.

Much of Russell Forbes' contribution to governmental purchasing has been in the development of adequate legislation to regulate the function and in standardizing procedures to insure the routine observance of sound commercial principles. But he has never contended that system alone will insure efficient performance. Long and intimate association with all sorts of purchasing and all sorts of purchasing men has given him a profound appreciation of the human factor.

It is his belief that a governmental unit can and will have businesslike buying when the people are sufficiently informed and aroused to demand it, and to the extent that the chief executive supports his purchasing officer and permits him to do a conscientious job. The last point explains his insistence that Mayor LaGuardia deserves first credit for successful purchasing in New York City. That is what he told the Conference of Mayors at Washington last November, putting the responsibility squarely up to them. Unfortunately, they do not all have a Forbes to place in the Commissioner's office.

IN REFERRING TO "Dr. Forbes" in Russell's family, it is necessary to be more specific, for two can claim that title. In 1926, he married Miss Grace Springer, an instructor in Zoology at Barnard College, Columbia University. The romance dates back to Westminster College days, when both were undergraduates together. The future Mrs. Forbes took her master's degree at Oberlin and her doctorate at Columbia, where she still continues her teaching. They have two sons, James Russell, 7, and Malcolm, 5.

The Commissioner has steadfastly refused to turn politician by devoting his evenings to ward meetings and the cultivation of party

Continued on page 31

**EVERY BUSINESS
IS DIFFERENT
BUT SIGNODE OFFERS THEM
ALL THE SAME ADVANTAGES
Better, Safer, Cheaper Shipping**

By using Signode Bulk Binding, carload shipments of merchandise are reinforced and protected... arrive at destination with less damage. Money is saved in damage and materials. A Signode Bulk-Bound carload shipment of salt block is shown.



Signode designed a new method of crating and reinforcing the shipment of this gas meter, which weighs 500 pounds and is three feet in height. The old method of crating cost \$2.50; the new method costs \$1.54.



Snaths, the queer shaped handles of scythes, used to be tied with rope. Now they are reinforced with Signode Steel Strapping. Results: The snaths are bundled faster, and the bundles are neater and tighter. Chafing or scarring of snath's varnished finish have been eliminated.

• There's practically no limit to the variety of Signode Steel Strapping applications. It can be used for every kind of shipment from small packages to complete carload bracing. Whatever your shipping problem is, we have at your command expert information based on years of specialized experience in packing and shipping problems. Send for Catalog 17-A or request to have a Signode Packing Engineer call at your office.

SIGNODE STEEL STRAPPING CO.

2602 N. Western Ave., Chicago, Ill.
371 Furman St., Brooklyn, N. Y.
454 Bryant St., San Francisco, Calif.

SIGNODE
Better Packing Headquarters

THE MARKET PLACE



*A quick review of the market
noting major developments in
supply, demand and prices of
selected basic commodities*

Supply

Demand

Market

BURLAP

DECEMBER SHIPMENTS of 189 million yards, $\frac{2}{3}$ of which was consigned to North American ports, set a new high record. Some Calcutta mills are booked through the first half of the year and are now seeking July business. Applications have also been made for permission to install more spindles. Spot supplies are scarce.

CURRENT PURCHASES are not in great volume, but good earlier sales are responsible for the substantial backlog. Demand for bags used in combating flood conditions was not actually apparent in January, but this is estimated as a large replacement factor over the next few months, as supplies are known to be practically exhausted.

THE 5.50 PRICE attained in December was firmly held through the first three weeks of January, later sagging to 5.40, still substantially above the level of two months ago. Spot and shipment prices show the greatest strength, due to the tightness of immediate supplies; contract and afloat business finds a softer market.

COAL

BITUMINOUS PRODUCTION was maintained at high levels throughout January. Industrial reserve stocks were built up by an additional two million tons. Output was not greatly affected by flood conditions, but transportation difficulties disturbed the normal flow of coal and much stocked tonnage in the Ohio Valley was destroyed or seriously damaged.

INDUSTRIAL BUYING continued in fair volume with a continuation of the policy to build up stocks prior to April 1st. In the closing week it was stated that emergency requirements resulting from the flood would practically balance with output, thus checking the accumulation of inventory over the coming month.

PRICES WERE STEADY and firmer, with a moderately upward tendency in the latter half of the month. Steam coal advanced 25 to 50 cents in the last week of January; No. 1 advanced 20 to 25 cents. Interest is now centering upon the union wage agreement which expires at the end of March. Conferences have been called this month for a preliminary discussion of renewal terms.

COPPER

WORLD STOCKS were reduced by 27 $\frac{1}{2}$ % in 1936, to 353,150 tons, with world production and consumption in close balance at the present time. U. S. output continues to advance, and on January 14 foreign production restrictions were temporarily removed to relieve the spot scarcity. The prescribed rate for some months past has been 105% of standard.

JANUARY DOMESTIC SALES amounted to 53,810 tons, 39,007 being for April delivery. A minor buyers' scare seemed imminent at mid-month, but did not materialize in any extraordinary buying wave. Consumption in general lines continued brisk, but automotive takings were somewhat curtailed by strike conditions. Higher prices have revived talk of substitute metals, particularly aluminum.

THREE PRICE ADVANCES occurred in January. On the 2nd, copper went up $\frac{3}{8}$ to 12 cents; on the 12th, to 12 $\frac{1}{2}$ cents; and on the 15th to 13 cents. This was attributed largely to the strength of the European market, which was substantially ahead of these figures, rather than to domestic conditions, and the higher price is none too firmly supported.

COTTON

THE CHIEF DEVELOPMENT in supply was the clarification of government policy regarding the release of three million bales of 11 and 12 cent loan cotton held by CCC. The program contemplates sales to relieve the tight spot situation in February and March, and only for actual use; cotton thus sold is not to be held in warehouse, but moved within ten days. It will chiefly concern the better grades, on which a favorable market exists.

MILL ACTIVITY is sustained at high rates, and expanding. Orders continue in good volume, exceeding current production. Unfilled orders at print mills are up to 480 million yards, or sixteen weeks production; more than 30% of 1937 capacity is already sold, with a considerable volume of nearby requirements not yet covered. Demand is still chiefly for the better grades of staple.

RAW COTTON PRICES registered a net gain of 20 to 25 points for the month. The 13 cent level was exceeded at mid-month, but that figure was not maintained. Futures were virtually at a stalemate, and sagged on the liquidation of long positions. Gray goods, print cloths and sheeting continued to advance, but the rise was checked toward the end of the month as moderately increased output made itself felt.



SHOOTING THE SUN

REPUBLIC keeps its eyes on the future. Its chemists and engineers are always busy with new experiments, testing new ideas for improvement in belting, hose and other mechanical rubber products. They seek better rubber compounds, better reinforcing fabrics, better methods to increase service life and produce greater values.

As a result of past research, Republic Products have established the present day quality standards. These standards will go higher because industry will make greater and greater demands and we will always be ready to meet them.

The **REPUBLIC RUBBER**

Manufacturers of HOSE
BELTING • PACKING
MOLDED PRODUCTS.



Company
YOUNGSTOWN • OHIO

ORDER REPUBLIC RUBBER PRODUCTS FROM YOUR DISTRIBUTOR

FEBRUARY 1937

Supply

IRON and STEEL

STEEL OPERATIONS were at 79½% for the first half of January, despite the loss of some automotive business, and went to 80.6% in the third week. The flood was responsible for a recession to 77.9% in the final week, though the trend of schedules was consistently higher. Activity in pig iron is expanding more rapidly than in steel, reflecting the shortage of scrap.

LUMBER

LUMBER PRODUCTION for 1936 showed 20% increase over 1935. The current supply situation, however, is acute. Western mill yards are fully stocked but unable to ship on account of the maritime strike. It now appears that eastern deliveries may not be made until April or May. Labor contracts at the mills expire in April, and there is at least a likelihood of interruption from this source. Meanwhile, many southern mills and operations serving the east are at a standstill because of flood water.

NAVAL STORES

ENTERING UPON A four months season of normally low production, two special developments have attracted attention. One is the rapid reduction of CCC holdings. The government interest is now down to 80,000 barrels of rosin, from an original stock of 280,000. The liquidation has been profitable and has not adversely affected the market. It is likely that it will be completed before the new season. Turpentine stocks are moving less rapidly, and about 90,000 barrels remain. The second development is that high prices are bringing into sight unusually large quantities of rosin from the interior. It is feared that this may indicate a disinclination to participate in the 1937 curtailment program.

PAPER

OPERATIONS CONTINUED at a brisk pace in virtually all branches of paper manufacture, and the outlook is for steady expansion through 1937. Lack of snow in eastern Canada has retarded the lumber cut, which may amount to only ⅔ of normal in several important sectors. Considerably increased plant capacity is under way, particularly in the south, but will scarcely be effective this year.

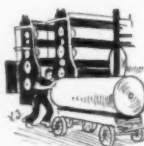
Demand

INCREASING DEMAND for heavy steel bars, plates and shapes, and better railroad buying, kept up the backlog. There is now better balance between heavy and light items. December shipments of finished products by the Steel Corporation were the highest since May, 1930. Warehouse sales in January were in record volume. Tin plate prospects for 1937 are bright. Shipments generally are about a month behind.

UNFILLED ORDERS are now at about 1,500 million feet, or double the figure of a year ago, as dealers have sought to cover requirements. New orders are running 26% ahead of a year ago and are substantially in excess of production and shipments.



PRICE ADVANCES have been accompanied by a steadily mounting consumer interest in rosins, stimulating a desire to cover requirements and build up stocks at least to a 90 day supply pending the receipt of the first of the new crop. Foreign demand has also held up well. The turpentine market has been relatively sluggish, but better than for some months past.



DEMAND IS BUOYANT, with good trade, well diversified, reported from the chief metropolitan centers. Box boards and wrapping were particularly active; box coverings moving well; interest in tissues and fine papers slightly off from recent weeks. Deliveries still tight, but improving.

Market

FIRST QUARTER PRICES on many items were deferred until February 1st due to late delivery on the part of mills. Warehouse prices advanced early in the month. Heavy melting steel scrap went up to \$20, a new high for the recovery movement. Pig iron advanced 50 cents a ton, \$1.50 since November, the latest rise being practically offset by abolition of the freight surcharge.

THE GENERAL LUMBER LIST has risen sharply in response to the restricted supply situation. Characteristic of soft and hard woods, Southern pine advanced 5% in January to \$25.09, and oak flooring advanced 17½% to \$94. Spot supplies command a substantial premium.

FOR THE FIRST ten days of January the sensational price advance in rosins continued, carrying the list up to a point 135% ahead of a year ago. The market then became irregular and experienced two sharp breaks of 6 to 10%. The month shows a net decline of about 7½%, but prices are still well ahead of two months ago. Turpentine followed the advance more actively than in previous months and was up to 50½ cents at the peak. It also shared in the subsequent decline, and made a net recession of ½ cent for the month, to 47 cents.

PAPER PRICES are generally firm and tending to rise. Mechanical pulp is up \$2 a ton and chemical pulp about \$1, with book papers, both coated and uncoated, following this rise. The new schedule on news print is now generally in effect at \$42.50. The most drastic advance was recorded by chip board, which registered a 20% increase to \$42.50.

Welcome the Man ...who wears **THIS PIN**

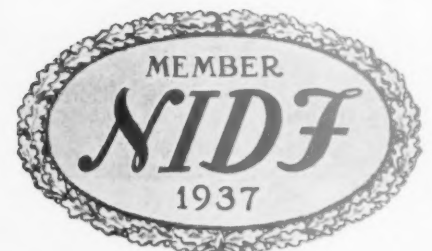
He can save you
work, worry, money

THIS EMBLEM is the official identification of the National Industrial Distributors' Foundation... an organization formed by leading industrial distributors who seek to promote highest standards of service to Industry. Every member possesses recognized ability, and verified facilities for rendering a complete service.

The man who wears this Emblem represents a local member distributor. He warrants a welcome. He places at your command facilities which he maintains as a "cooperative service" for you and other users of industrial supplies and equipment... facilities which you can share with other buyers to avoid work, worry and expense in purchasing and stocking the bulk of your plant requirements.

He offers you the advantages of: 1. Expert buying service that "narrows-down" your work of selecting supplies. 2. Superior warehousing facilities that enable you to limit plant stocks, and reduce stock-carrying charges. 3. To-your-door delivery that cuts down shipping and trucking expense. 4. One-source supply which enables you to obtain many items with a single order. 5. An information service that gives you latest unbiased product-and-price data without bother or delay.

While you may know this distributor, now, and use his service to some extent, it will pay you to get-together with him and plan ways to make **FULL** use of his money-saving facilities.



**NATIONAL INDUSTRIAL
DISTRIBUTORS' FOUNDATION**
of the I. S. R. B.; an activity of the National Supply & Machinery
Distributors Assn.; Southern Supply & Machinery Distributors
Assn.; and American Supply & Machinery Mfrs. Assn.

Supply

PETROLEUM

STATISTICS FOR 1936 SHOW crude oil output up 8% from 1935 and slightly ahead of the previous record year, 1929. Oil run to stills was 17.7% above the 1929 record. Crude stocks were down to about 287 million barrels. Production is maintained well above three million barrels daily average, and the Bureau of Mines recommendation was substantially raised, coming closer to actual conditions than for some months past. Gasoline storage was sharply up at a rate of from 1,500 to 1,788 thousand barrels per week.

RUBBER

THE INTERNATIONAL COMMITTEE last month raised export quotas for the third quarter to 85%, an action which does little to relieve the current scarcity of spot supplies and merely anticipates maintaining approximate balance with the expected widening of use. Licenses, however, are being issued for six months instead of the 1 to 3 months period heretofore observed. There is some question as to the ability of growers to adjust production and shipments quickly enough to ease the situation. Dealers' stocks in the Colonies are down. U. S. stocks are low, but the decline was halted in January after 16 consecutive months of lower inventories. Tire inventories are reported as abnormally high.

TIN

VISIBLE STOCKS of tin were increased during 1936 by 8,854 tons, to 22,695, the largest figure in three years. This represents 14.8% of annual consumption at current rates, as compared with 9.7% at the close of 1935. The new quota pact, with seven countries participating in the agreement, contemplates standard production of 199,850 tons annually, with quotas at 100% for the first quarter. Under this agreement, stocks are limited to 25% of annual tonnage, and deficiency credits to 8 $\frac{1}{4}$ %.

ZINC

THE STATISTICAL POSITION of zinc is notably strong. Stocks are down to about 44,000 tons, or one month's supply. This is 50% under the figure at the end of July, and is still shrinking. Ore stocks are also low. With a good backlog of orders, and prices rising, producers are not inclined to make excessively liberal offerings.

Demand

MOTOR FUEL CONSUMPTION in 1936 was 10% ahead of the 1935 peak and continues at a record rate. Heating oils are moving in good volume now, but not up to expectations for the season. Buying has generally been of a spasmodic nature.



RUBBER TRADE was fairly steady, but quiet, as professional traders provided most of the activity in January. Factory buyers were content for the most part to observe the market from the sidelines, but stepped in to contract for substantial volume on the two occasions when prices dipped below 21 cents. Consumption in 1936 was 16 $\frac{1}{2}$ % above 1935, amounting to 573,522 tons. Unless the curtailment of automotive buying due to strike conditions reached unexpected proportions, a further expansion is looked for in the first half of 1937.

U. S. CONSUMPTION of tin in 1936 was up 22% from 1935, and the present outlook is for moderate expansion during 1937. Tin plate activity, which featured the record of the past year, shows indications of experiencing another excellent season. The market was generally quiet, with good volume purchases developing around the 50 cent level.



DEMAND IS GOOD. New orders are in fair average volume, and shipments are brisk against earlier contracts.

Market

REFINERS were slow to follow the proposed advance in crude prices initiated in the early part of the month, and it was not until the very end of January that a general advance was effective in the southwest, averaging about 12 cents per barrel. Bunker oil advanced 5 cents at about the same time. Kerosene was firm. Gasoline nominally unchanged, but with retail price wars threatening the structure in the eastern territory.

FLUCTUATIONS in rubber prices were somewhat narrower in January than in the preceding month. The net change for the month was a decline of $\frac{1}{8}$ cent, to 21 $\frac{1}{4}$, with the greatest volume of sales to users consummated around 20 $\frac{3}{4}$. The statistical situation apparently will support a continuation around this level for some time to come. Tire prices were advanced January 19th, on the basis of the higher cost of crude, the general list being raised about 6%.

THE TIN MARKET was reasonably firm, holding at better than 51.30 for the first half of January on the news of a five-year renewal of the restriction pact. Publication of supply figures in the third week resulted in a slight recession, and in the closing week prices sagged to 49.30, but more than a cent of this loss was promptly recovered. Net decline for the month was 1 $\frac{1}{4}$ cents, to 50 $\frac{1}{2}$.

ZINC PRICES for first quarter shipment registered another advance of 15 points, to 5.60, on January 9th, with a premium of 10 points for second quarter delivery. The price situation at this time was rather spotty, but it firmed within a few days when a further advance carried the list to 6 cents (East St. Louis) for both first and second quarter deliveries. Ore prices were also raised \$3 a ton to a range of \$38-\$39.

GOSH, BOSS... THE BOYS SURE GO FOR THIS FRIGIDAIRE-COOLED WATER!

It Pays...in good will...in profits...to
MODERNIZE WITH FRIGIDAIRE WATER-COOLING EQUIPMENT

Cool, refreshing water . . . always just the right temperature for health and satisfaction

● Frigidaire Water Cooling Equipment wins its place on the sound, strictly business basis of *greater efficiency, greater economy, more goodwill.*

Plenty of cool, refreshing water close at hand, and at the proper temperature—not too warm or too cold—means employee comfort and appreciation . . . more production . . . fewer accidents. And Frigidaire equipment also means a tremendous saving in actual dollars and cents over old-fashioned methods. A saving so great that Frigidaire really

pays for itself in a short time, and continues to earn a big investment return for years to come.

Frigidaire equipment has the flexibility and capacity to meet every industrial requirement—completely, efficiently and economically. It will pay you to get full details and first-hand information.

For free survey and estimate, see your local Frigidaire Dealer, or write Frigidaire Division, General Motors Sales Corporation, Department 81-2, Dayton, Ohio.



.....GREAT NAMES IN STEEL

ELECTRUNITE
REG. U.S. PAT. OFF.

STEEL & TUBES
ELECTRIC WELD

TUBING

BERLOY

REPUBLIC
STEEL

TRUSCON

NILES
STEEL PRODUCTS

STEEL-MADE

GREATER

For years these trade-marks have been known to purchasing agents the world over. They have been great names in steel, and the companies sponsoring them have earned respect as dependable sources of supply for steel and steel products.

Today these names are greater. As subsidiary companies or divisions of Republic Steel Corporation, they are backed by the finances, the research facilities and the raw steel production of one of the three largest steel corporations in America. Successful purchasing agents know that a manufacturer's success is largely dependent upon



satisfactory sources of supply. Depend upon Republic and its subsidiary companies to make your steel dollar buy more than steel — experience in application that will point the way to increased profits in your plant.

Republic Steel Corporation

AND SUBSIDIARIES

GENERAL OFFICES . . . CLEVELAND, OHIO

BERGER MANUFACTURING CO., CANTON, OHIO
Formed Steel Items, Shoting, Lockers, Cabinets, etc.
NILES STEEL PRODUCTS CO., NILES, OHIO
Stampings and Other Fabricated Steel Products

STEEL AND TUBES INC., CLEVELAND, OHIO
World's Largest Producer of Electrically Welded Tubing
TRUSCON STEEL CO., YOUNGSTOWN, OHIO
Fabricated Steel Building Products and Steel Stampings

UNION DRAWN STEEL CO., MASSILLON, OHIO
Cold Drawn Bars and Shapes, Precision Shafting



— Sanderson

P.A.: "But why should I order six tons when I need only five?"
Salesman: "It's your quota, Buddy. We're upping everybody 20% this year."

Russell Forbes

(Continued from page 21)

ties. The political future does not worry him; his job is purchasing, and after the cruelly long and exacting hours he prefers to seek relaxation in a small congenial group at home—without bridge. He plays at tennis and golf when he has the chance, but playtime has never figured largely in his busy schedule.

For fifteen years the country boy, by force of circumstance, has been a city dweller. One of his most recent purchases, however, on his own account, is a 50-acre tract near Danbury, Connecticut. It isn't a week-end spot for idle rustication, but a well cared for, well equipped productive farm, and it will continue to be operated as such under its new owner. "The boys like the country," he says—"We all like it."

—S. F. H.

Obituary

CHARLES P. HOLTON, 84, for many years purchasing agent for Gaar, Scott & Co., Richmond, Ind., and of its successor M. Rumely Co., La Porte, Ind., prior to his retirement from active business four years ago, died at his home in La Porte on December 10th.

J. J. BENNETT, 52, for more than a quarter century associated with the purchasing department of the Illinois Central Railroad, and purchasing agent of that road up to his resignation two years ago to serve as vice president of the Crescent Coal Co., died at Chicago, December 22nd, after a brief illness.

P. HILL TUCKER, 61, for the past two years purchasing agent for the City of Roanoke, Va., and identified with the municipal service in various positions of trust and responsibility for forty-three years, died suddenly at his home, December 30th.

WILLIAM McMASTER, 72, for forty years active in railroad and

industrial circles, and purchasing agent of the Indiana Harbor Belt Railroad Co., at East Chicago prior to his retirement two years ago, died January 1st at Miami, Fla., after a two weeks' illness.

FRANK H. STEVENS, 53, Purchasing Agent and assistant treasurer of Warren, Webster & Co., Camden, N. J., died at his home in Collingswood, January 6th. Mr. Stevens was active in civic affairs. He had served for ten years on the Collingswood Board of Education, and for seven years as vice president of the Board of School Estimates of the

Camden County Vocational Training School.

JAMES A. BRADEN, who served in 1934 as purchasing agent for the City of Cleveland, and has more recently been president of the Braden-Sutphin Ink Co., died last month in an air crash in the mountains north of Los Angeles.

DONALD E. BURNS, 47, for many years purchasing agent and secretary of the Milloy Lumber Co., Erie, Pa., died at the Hamot Hospital in that city January 30th, after a six weeks illness.

**Complete
Line
Of**

**High
Speed
Steel**
The Bright Blade

**Special
Alloy
Steel**
The Red Blade

**Tungsten
Steel**
The Black Blade

SIMONDS
"RED END"
HACK SAWS
for every metal cutting job

Now you can get Simonds "Red End" Hack Saw blades in three qualities for hand frames and power machines to cut every kind of metal straight and fast and at lower costs.

SIMONDS SAW AND STEEL CO.
FITCHBURG, MASS., U. S. A.

AMONG THE ASSOCIATIONS

Chicago—The seventh midwinter meeting of the **Public Utility Group, N.A.P.A.**, was held at the Palmer House, February 3-5. The program follows. A résumé of the principal papers and proceedings will be published in the March issue.

February 3. Early Birds' Dinner, at the College Inn Dining Room of the Hotel Sherman, through courtesy of the Chicago Association.

February 4. Morning Session. A. C. Bull of Public Utility Engineering & Service Corp., presiding.

Address of Welcome. C. A. Kelley of Southern Sieras Power Co., President of the N.A.P.A.

Symposium on the Robinson-Patman Act. Leader, George A. Renard, Executive Secretary of the N.A.P.A. Guest Speakers, Richard C. Sogge of General Electric Co., and Stuart S. Ball of Montgomery Ward & Co.

February 4. Afternoon Session. C. O. Bailey of The Commonwealth & Southern Corp., presiding.

Address, "The Code-Approval-Ordinance Program of the Electrical Industry" by John D. Noyes, Staff Engineer, The Detroit Edison Co.

Symposium, "Public Utility Purchasing Procedure." Leader, T. R. Harber of Kansas City Power & Light Co.

February 4. Banquet Session. Speaker, Phil Hanna, Editor of the *Chicago Journal of Commerce*.

February 5. Morning Session. R. W. T. Purchas of Middlewest Utilities Co., presiding.

Election of Officers for 1937-1938.

Address, "Railway Door-to-Door Pick-up Systems" by Fred Carpi, General Freight Agent of Pennsylvania R. R.

Address, "High and Low Pressure Joints and Mechanical Couplings" by H. LeRoy Whitney, Chief Engineer of the M. W. Kellogg Co.

February 5. Afternoon Session. Edward T. Gushée of Detroit Edison Co., presiding.

Address, "An Economist Looks at the Public Utilities" by Myron H. Umbriet, Professor of Economics, Northwestern University.

Symposium, "Special Purchasing Problems." Leader, Edward T. Gushée.

The local committee in charge of arrangements for the meeting consisted of A. C. Bull of Public Utility Engineering & Service Corp., *Chairman*; A. H. Davis of Utilities Power & Light Corp., H. Plumley of Commonwealth Edison Co., and R. W. T. Purchas of Middlewest Utilities Co.

Hamilton, Ont.—Officers of the **Hamilton Association** for 1937 have been chosen as follows: *President*, William Davies; *Vice Presidents*, W. P. Tinsley and A. C. Kay; *Secretary*, C. R. McNeil; *Treasurer*, G. A. Ireland; *National Director*, retiring President C. C. Callowhill; *Executive Committee*, C. Barlow, G. W. Harper, and A. H. Tallman.

Sacramento—The annual meeting of the **State, County and Municipal Purchasing Agents Association of California** will be held in this city February 25th, 26th, and 27th. E. J. Plato is general chairman of the committee in charge, assisted by Lowell Smith, *Program*; J. F. Misphey, *Entertainment*; Gus Brudigan, *Housing*; Miss Nell Burke, *Ladies Entertainment*.

JANUARY 4

Bridgeport, Conn.—Meeting of the **Salesmen and Purchasing Agents Association**, at the Stratfield Hotel. Sound motion picture: "Two Salesmen in Search of a Job." F. C. Benson of Dictaphone Corp. was in charge of the program.

JANUARY 5

Oakland—Luncheon meeting of the **East Bay Group, Northern California Association**, at the Lake Merritt Hotel. Speaker: Roy C. Beckman, Metropolitan Oakland Representative, "The World's Fair of 1939."

JANUARY 7

Chicago—Commodity luncheon meeting of the **South Side Group, Chicago Association**, at the Shoreland Hotel.

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Speaker: Paul C. Smith, executive editor of the *Chronicle*, "Current Events."

Salt Lake City—Dinner meeting of the **Utah Association**, at the University Club. Speaker: Julian M. Bamberger, General Manager of the Bamberger Electric Railway. Mr. Bamberger made a plea for citizens and business men to exercise greater care in the selection of legislators.

JANUARY 9

Kansas City—Meeting of the **Kansas City Association**, at the Hotel President. Officers for 1937, as announced in last month's issue, were installed at this meeting.

JANUARY 11

Boston—Meeting of the **New England Association**, at Schrafft's. The program was in charge of the Service Committee. E. E. Brainard of Merrimac Chemical Co. presided. The discussion was led by H. H. Stafford of Babson's Reports, "Business Outlook"; F. A. Hayes of American Hide & Leather Co., "Chemicals"; R. M. Kimball of the Foxboro Co., "Paper and Paperboard"; G. D. Means of State St. Trust Co., "Office Equipment and Supplies"; D. A.

Perry of Ginn & Co., "Factory and Mill Supplies"; H. S. Royce of Boston Woven Hose & Rubber Co., "Textiles and Rubber"; F. J. Shea of Boston Gear Works, "Metals and Machinery"; and G. F. Williams of Eastern Steamship Lines, "Fuel and Oils." At an afternoon conference preceding the regular dinner meeting, F. A. Hayes led a continuation of the discussion on "Reciprocity."

Portland—Meeting of the Oregon Association, at the Mallory Hotel. Discussion, "Contracts—What Are They? What Should They Be?" Report by A. W. Angell on the Education Course, which opened on January 18. Motion pictures of conference football games, by courtesy of Associated Oil Co.

Wyomissing, Penna.—Meeting of the District Council No. 8, N.A.P.A., at the Iris Club, as guests of the Reading Association. George M. Tisdale of New York, District Vice President, presided. Among the representatives present were Frank Carter of Baltimore, W. C. Volk of Buffalo, A. S. Brower of Raleigh, N. C., Conrad P. Spuck of Albany, G. L. Baumgartner of Allentown, Carleton Reynell of Harrison, N. J., John Y. Bunn of Philadelphia, W. W. Irwin of Rochester, Walter H. Scott of Syracuse, and C. E. Thompson of Reading.

New Orleans—Meeting of the New Orleans Association, at the St. Charles Hotel. Rene H. Garrot, National Director of the association, presented a paper on "Business Trends."

JANUARY 12

Cincinnati—Meeting of the Cincinnati Association, at the Gibson Hotel. Speaker: Lt.-Col. Oscar Krupp, Executive Officer of the Cincinnati Ordnance District, "Industrial Mobilization in the Event of War." Stereoptican slides from the War Department were shown.

Milwaukee—Dinner meeting of the Milwaukee Association, at the Elks Club. Speaker: G. Van Dyke, Manager of Special Steels Division, Joseph T. Ryerson & Son, Inc., "Stainless Steel." General discussion in charge of the Problems Committee: "Wholesale Buying for Employees."

Oakland—Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. Carl Zamloch: "Magic de Luxe."

Chattanooga—Meeting of the Chattanooga Association, at the Hotel Patten. Speaker: Ed Crosby of E. I. du Pont de Nemours & Co.

Bay City, Mich.—Dinner meeting of the Saginaw Valley Association, at the Bay City Country Club. Travel talk by J. George O'Brien of Saginaw, "Around the World in 20 Stories." This meeting was the



... STAGES A COMEBACK WITH HOWARD BOND SHOULDERING A Major Share OF THE DETAIL

★ Builders, architects and contractors know they can depend on Howard Bond, the WORLD'S WHITEST BOND PAPER, in every emergency. They know its uniformly smooth, clean surface makes for better and faster printing, writing and typing. They know that it has extra toughness to take plenty of punishment without showing it. To specify Howard Bond is to know and appreciate these things for yourself.

Compare it! Tear it! Test it!
And you will Specify it!

THE HOWARD PAPER CO.
URBANA, OHIO



★ Send for your copy of the New Howard Bond Portfolio



The Howard Paper Company, Urbana, Ohio
Send me the new Howard Portfolio

Name.....Firm.....

Address.....

City.....State.....

(Please attach to your business stationery) PU-2-37

Commodity Price Trends—1937

“WHAT’S AHEAD FOR PRICE MOVEMENTS?”—is a question of primary importance to every organization having anything to do with basic raw materials.

COMMODITY MARKETS ARE SWIFT to reflect present-day uncertainties. They are just as quick to discount coming significant developments.

UNDER SUCH CIRCUMSTANCES it is a matter of prime importance for business men today to have access to a dependable source of information which will keep them regularly posted on “WHAT’S AHEAD?”

WE HAVE JUST HAD PRINTED a folder giving full information about this service which for many years has provided dependable price analyses and forecasts for hundreds of this country’s and Canada’s purchasing executives.

SHOULD YOU DESIRE A COPY of this folder together with a copy of our current 10-page analysis entitled “Commodity Price Trends—1937” without cost or obligation, please clip, fill out and return the coupon below.

McGill Commodity Service, Inc.

Taylor Bldg., Auburndale, Mass.

Gentlemen:

Please send me a copy of the current issue of your 10-page analysis “Commodity Price Trends—1937” and the descriptive folder mentioned above.



Name.....Position.....

Company.....

Street & No.....

City.....State.....



- Cold Drawn Bars
- Ground Shafting
- Ultra-Cut Steel
- Open Hearth Screw Stock
- Special Sections
- Alloy Steels



THE first aid to good workmanship is accuracy—and B & L Quality Flats measure up to that requirement in the full sense of the term. Their reputation and popularity among steel users are based on the fact that their close tolerances in size and section contribute to precision and economy in fabrication and assembly.

They are cold drawn to a commercially smooth surface and true flatness with sharp, square corners that run straight throughout the length of the bar. They are available in a full range of sizes, so that they may be had from stock for most purposes—thus reducing shop work and machining to a minimum. Both Standard Flats and Extra Wide Flats up to 12" widths and from $\frac{1}{4}$ " to 2" thickness are carried by leading warehouses from coast to coast.

BLISS & LAUGHLIN, INC.

HARVEY, ILL.

Sales Offices in all Principal Cities

BUFFALO, N.Y.

first held under the new officers: *President*, George B. Fluehr of Kuhlman Electric Co., Bay City; *Vice President*, Thomas Warren of Morley Brothers, Saginaw; *Secretary*, Hubert H. Rose of Meisel Hardware & Supply Co., Bay City; *Treasurer*, Leslie J. Stonehouse of Westover-Kamm Co., Bay City; *National Director*, Thomas Plater of Flack-Pennell Co., Saginaw.

Tulsa—Meeting of the Tulsa Association. Installation of officers for 1937, as elected in December and reported in this column last month. H. P. Hellinghausen of Oklahoma Pipe Line Co. has been named second vice president of the association in place of V. W. Bailey, who has resigned his membership because of a transfer into sales work. Motion picture, "The Private Life of a Valve," presented through courtesy of Midwest Equitable Meter—Merco Nordstrom Valve Co., and supplemented with remarks by sales engineer James H. Baker.

JANUARY 13

Buffalo—Dinner meeting of the Buffalo Association, at the Hotel Statler. Speaker: George A. Renard, Executive Secretary of the N.A.P.A., "The Effects of Recent Legislation on Buying and Selling."

St. Paul—Annual meeting of the Twin Cities Association, at the Lowry Hotel. Officers for 1937 were

elected as follows: *President*, W. H. Cauldwell of the Waldorf Paper Co., St. Paul; *Vice President*, Fred S. Gram of City of Minneapolis; *Secretary-Treasurer*, Basil L. Nelson of Northern States Power Co., St. Paul; *Director*, A. B. Morris of Nutting Truck Co., Faribault.

JANUARY 14

Chicago—Meeting of the Chicago Association, at the Hotel Sherman. Speaker: George A. Renard, Secretary of the N.A.P.A., "From One P.A. to Another."

Philadelphia—Meeting of the Philadelphia Association, at the Bellevue-Stratford Hotel. Speaker: Thomas D. Taylor, Metallurgical Engineer, Bliss & Laughlin, Inc., "Bar Steels and their Application to Industry's Purposes." Industrial film, "The Manufacture of Hot Rolled and Cold Finished Steel Bars."

Officers for 1937 have been elected as follows: *President*, P. G. Maguire of Pennsylvania Sugar Co.; *Vice Presidents*, Robert Porter of Provident Trust Co., and Harry F. Keeler of James Lees & Sons Co.; *Secretary-Treasurer*, Ralph E. Frazer of General Accident, Fire & Life Assurance Corp., Ltd.; *National Director*, H. W. Elkinton of Philadelphia Quartz Co.; *Directors*, Eugene C. Barnes of United Gas Improvement Co., Milton L. Draper of E. I. du Pont de Nemours & Co., Frederick W. Fisher of Hajoca Corp., William B. Gold of The Electric Storage Battery Co.,

if

You have a Heavy Welding Problem

Let Smith Solve It



TAKE advantage of Smith's matchless facilities, long experience and modern welding equipment. Profit by the benefits of: savings in weight, lower costs, greater strength, improved quality and quicker delivery!

Remember Smith welds to your designs and specifications, or will prepare designs to meet your requirements. Find out how easily, conveniently and economically, your heavy welding jobs are solved by Smith! Don't put off getting this important information! Write

S. MORGAN SMITH COMPANY
YORK PENNA.

Roy A. Hurst of Sun Oil Co., and Norman W. James of Pennsylvania Salt Mfg. Co.

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Speaker: Judge Twain Michelsen, "The Narcotic Traffic as Seen from the Bench."

Springfield, Mass.—Fifteenth annual Ladies Night and dinner dance of the **Western Massachusetts Association**, at the Hotel Kimball. Guests included Benjamin Bayliss, President of the Rhode Island Association; Charles L. Sheldon, President of the New England Association; George P. Brockway, National Vice President of the New England district, N.A.P.A.; and Mayor Henry Martens of Springfield. J. F. Drennan was chairman of the committee in charge, assisted by J. E. Connor, *tickets and reservations*; E. J. Fleming, *decorations*; T. E. Pierce, *prizes*; and Lee Costigan, *entertainment and music*.

JANUARY 15

Portland—Luncheon meeting of the **Oregon Association**, at the Mallory Hotel, followed by an inspection visit at the plant of the Bingham Pump Co., through courtesy of Clifford B. Amos, Purchasing Agent.

JANUARY 16

Columbus—Meeting of **Sixth District Council, N.A.P.A.**, at the Neil House. Arthur J. Goetz of Monroe, Mich., District Vice President, presided at the sessions.

JANUARY 18

Tulsa—Buffet dinner and inspection visit of the **Tulsa Association**, at the plant of the Leland Equipment Co., oil company construction equipment and trailers.

JANUARY 19

Akron—Meeting of the **Akron Association**, at the City Club. The program included an open discussion of commodity market conditions.

New York—Meeting of the **New York Association**, at the Builders Exchange Club. Speaker: A. W. Zelomek, economist of the Fairchild Publications and President of the International Statistical Bureau, "The Trend of Distribution."

Canton—Meeting of the **Canton & Eastern Ohio Association**, at the Elks Club. Two motion picture films were presented, showing the new 4-high strip mills at the Youngstown plant of Carnegie-Illinois Steel Corp. and the Dearborn plant of the Ford Motor Company.

JANUARY 20

Pittsburgh—Meeting of the **Pittsburgh Association**, in the Cardinal Room, William Penn Hotel. Speaker: A. W. Zelomek, President of International Statistical Bureau, Inc., New York, "The Recovery in the Durable Goods Industries."

JANUARY 21

Chicago—Commodity luncheon meeting of the West Side Group, Chicago Association, at the Graemere Hotel.

San Francisco—Dinner meeting of the Northern California Association, at the Commercial Club, with celebration commemorating the 20th anniversary of the Association. Speaker: Frank I. Doans, Associate Electrical Engineer of the San Francisco-Oakland Bay Bridge, "Railway Electrification of the Bay Bridge."

Albany—Dinner meeting of the Eastern New York Association, at Keeler's Dutch Room. Speaker: Harry Simmons, Eastern Sales Manager of the Heinn Co., "Relations Between Sales and Purchasing Departments."

Cleveland—Meeting of the Cleveland Association, at the Cleveland Hotel. Speaker: H. B. Alston, Eastern Division Sales Manager of the Pacific Lumber Co., who gave an illustrated talk on redwood lumber and its uses.

New Orleans—Plant inspection visit of the New Orleans Association, at the newly completed Marrero plant of the Johns-Manville Co.

Toledo—Meeting of the Toledo Association, at the Fort Meigs Hotel. Speaker: C. J. Kalbfell of the Scovill Mfg. Co., Waterbury, Conn., "The Brass and Copper Industry."

JANUARY 22-23

Greensboro, N. C.—Annual winter meeting of the Carolinas-Virginia Association, at Sedgefield Inn. Speakers: George A. Renard, Secretary, and George M. Tisdale, Vice President, of the N.A.P.A.

JANUARY 23

Dayton—Annual dinner dance and entertainment of the Dayton Association, at the Miami Valley Golf Club.

JANUARY 25

Providence.—Meeting of the Rhode Island Association, at the Turks Head Club. Speaker: Herbert N. McGill, President of the McGill Commodity Service, "What to Expect in the Price of Commodities." Discussion on the purchase of heavy steel and the selection of supplies, led by Frank Martineau.

JANUARY 26

Oakland—Luncheon meeting and plant inspection trip of the East Bay Group, Northern California Association, at the plant of Standard Brands of California.

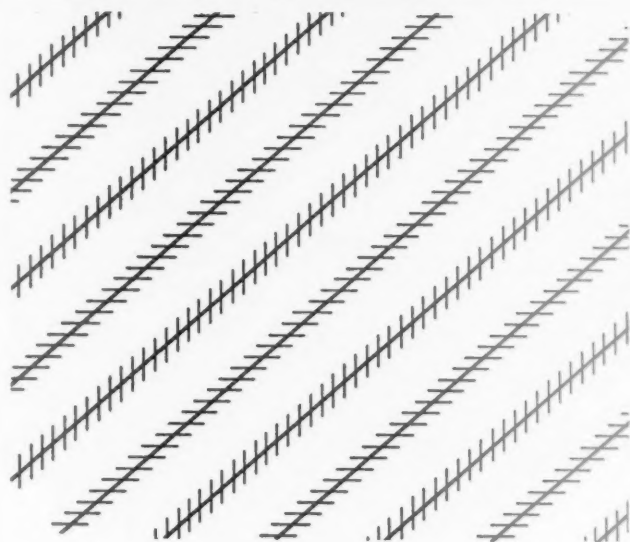
Syracuse—Meeting of the Syracuse & Central New York Association, at the Hotel Syracuse.

Continued on page 48

FEBRUARY 1937

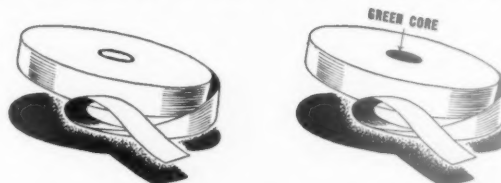
OPTICAL ILLUSIONS

ARE THE LONG SLANTING LINES
STRAIGHT & PARALLEL?



If you don't think so, just take a look at this sheet from the lower left-hand corner, holding it flat on a level with your eyes.

ARE THESE TWO ROLLS OF TAPE ALIKE?



Here are two rolls of sealing tape. They look alike except that one has a green core, the other hasn't. The roll at the left is priced a few cents less than the other. Therefore, it's more economical. Right?

No! That's another illusion—proved so by the experiences of the many thousands of sealing tape users. On the basis of complete operations, as carefully worked out by cost accountants, big tape users have found Green Core to be the sealing tape of *Lowest Final Cost*. That's why Green Core today is the fastest selling sealing tape in America.

If your shipping clerk is not using Green Core, ask your paper merchant to give you a shipping room demonstration.

You will see savings brought about by—

1. Speeding up work (no excessive rubbing required for Green Core);
2. Greater protection against loss and damage to merchandise;
3. Improving working conditions;
4. Greater strength added to containers;
5. Freedom from temperature changes.

Write us for name of nearest distributor

MID-STATES GUMMED PAPER CO.
2433 SOUTH DAMEN AVE. CHICAGO, ILL.

F. O. B.

(Filosofy of Buying)

A NYBODY can buy—except, it seems, for the Navy Department. Navy purchasing has always been considered among the more efficient and progressive of governmental procurement divisions. A leader in the development of specifications, its standard stock catalog was a milestone in purchase procedure. It is well and capably organized and staffed. But since the Walsh-Healey stipulation has been written into its requests for quotation, under the supervision of the Public Contracts Board, the Navy has been unable to find any bidders on copper, steel, and boiler tubes, amounting to more than a third of a million dollars and urgently needed for the completion of work in progress. Mr. Charles Edison, son of the late Wizard of Menlo Park, has been appointed Assistant Secretary of the Navy with the express assignment of finding a way out of the present impasse—a task which may severely test the w. k. inventive genius of the family.

Chief contribution of the Public Contracts Board, to date, in the development of purchasing science and technique, is the so-called "Canvass method." This plan substitutes, for open competition, a fine-tooth-combing of all possible suppliers until some one is found, probably some small producer who for some reason has not been an active bidder for Government contracts, but who is willing to subscribe to the Walsh-Healey labor requirements in consideration for a contract in hand.

CAREER men in purchasing please note: We did find the names of a few purchasing agents published in the recent government lists of Serious Salaries. Proving two things—that there is an upper bracket, and that there's still plenty of room at the top.

Says the Old Line Buyer: "In my time, if you found a bunch of fellows hanging around the reception room before 9 o'clock, it meant that you were likely to have a busy day. But today you can't be sure that it isn't just another sit-down strike."

IF IT were a steel plant at Flint, instead of a motor factory, the sparks would have been flying even more vigorously.

P.A.'s Mother Goose

A clever fine-print jockey
Came to our plant to sell,
And what was in his contract form
The lord alone could tell.
Too small to read, and phrased to hide
What it is all about,
The fine-print clause will get you

If
you don't
watch
out!

The broad back of the document
Was once all blank and fair,
But many ems of 5-point type
Are now imprinted there.
No man has read it all, but on
One point there is no doubt.
The fine-print clause will get you

If
you don't
watch
out!

Regardless of the terms herein, here's what we plan to do: If wages costs or taxes rise, we'll pass them on to you. If you don't like the new set-up, that's our cue to run out, and the fine-print clause will get you.

if
you don't
watch
OUT!

UNDER the second Four Year Plan, on which we have just embarked as a nation, the nine old gentlemen in black who sit upon the Supreme Court bench are reminded of the Biblical admonition, "Judge not, lest ye be not judges."

ONE of our esteemed contemporaries has revived the old folk tale that bobs up every few years, about the salesman who resented being kept waiting, and had the president forthwith discharge the offending P.A. Rumor has it that this same salesman—stout fella!—is now seeking the discharge of the superintendent for not specifying his brand, and of the president for not discharging him.

TWO QUESTIONS

You Should Ask

When Buying Wiping Cloths

"I feel that the time has come when an employer must demand of a manufacturer the answers to two questions:

1. How will your product affect my business?

2. How will your product affect the health of my employees?

That employer is entitled to honest answers based upon sufficient chemical and physiological examinations of the questionable product. Too many lives have been lost or jeopardized by too little knowledge of a product's action upon those who handle it."—Quoted from article "Lesser Known Facts About Occupational Disease" by Robert M. Hunt, M.D. in "National Safety News" November 1936.

—and their answers with respect to Sanitary Institute Labelled Wipers.

- (1) Institute labelled wipers help your *business* by protecting equipment and giving maximum efficiency. Utmost human care is taken to exclude buttons, hooks and eyes, or other foreign material which might injure mechanism. Thorough boiling provides highest absorbency and uniform standard packing assures delivery of cloths conforming to standard specifications. *For the good of your business—buy Institute labelled wipers.*
- (2) Institute labelled wipers protect the health of your *employees* and safeguard them against industrial diseases often spread by unsterilized materials. Every Institute labelled wiper is sterilized by boiling in a caustic and/or chloride of lime solution and drying at a heat in excess of 212 degrees Fahrenheit. Every labelled bale is produced by AMERICAN labor within the continental limits of the U.S.A. *For the good of your employees—buy Institute labelled wipers.*

• Demand The Sanitary Institute Label On Every Bale •

This Advertisement Sponsored
of the Sanitary



by the Following Members
Institute of America

BALTIMORE—American Wiping Cloth Co., 1162 Scott St.
 BROOKLYN—American Sanitary Rag Co., 600 Degraw St.
 BROOKLYN—Delia Waste Products Corp., 1557-61 Dean St.
 CHICAGO—American Sanitary Rag Co., 1001-15 W. North Ave.
 CHICAGO—Central Mills Co., 3920-60 S. Loomis St.
 CHICAGO—Chicago Sanitary Rag Co., 2137 S. Loomis St.
 CLEVELAND—Manufacturers Supply Co., 3528 East 76th St.
 HAMILTON, OHIO—The Leshner Corp., 1240 Central Ave.
 KANSAS CITY, MO.—American Wiper & Waste Mills., 511 Broadway
 NEWARK, N. J.—American Oil & Supply Co., 238-260 Wilson Ave.
 NEW YORK—Godfrey Cotton Products Corp., 102 Wooster St.
 PITTSBURGH—Armstrong Sanitary Wipers Co., 1233 Spring Garden Ave.
 PITTSBURGH—Scheinman-Neaman Co., 1024 Vickroy St.
 ST. LOUIS—Wiping Materials, Inc., 2000-28 N. Main St.

For complete Institute specifications write any member or The Sanitary Institute of America, 1100 N. LaSalle St., Chicago.

BUSINESS BOOK OF THE MONTH

Here's a plan that finds economic salvation in a buyers' market and solves the problem of unemployment by taking some two million salesmen off the road into production work

MASS-CONSUMPTION; Consumer Initiated Control of Production and Exchange. By Frederick Purdy. With an introduction by Roger Babson. Published by the Talisman Press, New York City. 220 pages. Price \$2.50.

ABOUT A DOZEN years ago we talked with an industrial artist-designer, who had put upon paper his conception of "the automobile of the future." It seemed, at that time, a very queer looking contraption, unfamiliar, and consequently unlovely in its mass, outline, and proportions. From the commercial viewpoint it was obviously impractical, then, for public acceptance of the advanced model would unquestionably have been negative. So this practical designer, who had an idea to sell, led up to his ultimate vision by a series of gradual

changes. He started with a drawing of the accepted 1924 model, followed by eight or ten intermediate sketches introducing in each successive stage some minor adjustments, not too radical in themselves but leading eventually to the ultimate design which he had visualized. That portfolio of progress sketches has proved to be in general prophetic of design trends in the automobile field, and the final drawing that looked so fantastic only a relatively short time ago is quite understandable today, for its elements are recognizable and accepted in the cars

on 1937 highways. The whole incident is illustrative of the sound psychology of "evolution, not revolution."

Similarly the designers of our commercial and economic machinery are leading us gradually through a process of evolution, in viewpoint, policy, and method. When they look ahead and put on paper the outline of the system which they visualize as the ultimate result, the pattern may be unfamiliar in the extreme, apparently sharply at variance with our experience and accepted standards of thought, and yet we may trace a sequence of evolutionary logic that lends validity to the proposal.

Mr. Purdy insists that his plan cleaves to our traditions of democracy, individual decision, private enterprise, the workings of economic law; that it is in step with modern trends in technical advance, higher standards of living, and greater security in all divisions of society; and that it must be worked out in a gradual process, starting with the primary essentials of living, such as food and clothing, leaving the more complete development to follow naturally from these beginnings. His basic data is the familiar Brookings study of our national capacity to produce and to consume. His plan is an attempt to put the Brookings price theory to work, his chief departure being that he starts from the other end of the transaction. He seeks to attain the desired ends while avoiding socialistic or cooperative organization, undemocratic paternalism and subsidy, and expensive and insecure credit.

In barest outline, the plan proposes to start the cycle of production

RISING MARKETS mean LARGER INVENTORIES

WISE BUSINESSMEN the country over are insuring against increasing prices by carrying the heaviest inventories recorded in years. Are you protecting yourself against rising cost of business forms and binders?

Now is the Time to Save Money!

Take advantage of the savings you can effect by contracting for your 1937 requirements at present prices. Write to our Planning Division TODAY for complete details of our "Price Protection Plan". Act now while contracts can still be made at depression price levels.

Record Keeping Equipment for All Needs

Whenever you need prong binders, ring books, visible index binders, sectional post binders, sheet holders, catalog covers, advertising portfolios or machine bookkeeping equipment, let CESCO quote on your requirements. Our trained Sales Engineers can be of real service to you by making available the benefits of 36 years experience in this field.

THE C. E. SHEPPARD CO.

44-03-A
Twenty-first St.

CESCO

Long Island City
New York

activity and consumption on an adequate scale, by setting up an assured demand as represented by individually budgeted incomes or earning capacities. This relieves the producer of the hazard of surplus and obsolescence and of the costly necessity of seeking out individual consumers or blasting a way through the clogged channels of distribution in order to dispose of his product. It further reduces his costs by assuring him the advantages of mass production. In turn, and in proportion to the volume of demand emanating from a given district, he enters a reciprocal arrangement to use the services of that sector of the population, either directly or by a similarly assured demand for the products of that group, arranged through a clearing house organization. Thus employment and production, earning power and purchasing power, are kept in balance and the wheel of industrial activity starts turning.

The second step in his plan, and that which promises the greatest contribution to the solution of our ills, is the insistence on actual production as the function of industry and the wholesale elimination of so-called "trading" functions which do not in themselves add to the intrinsic useful value of the goods produced. Since this is known to represent a substantial portion of consumer price, it is argued that the dollar will go twice as far, that demand will be doubled, production capacity utilized to the full, and unemployment disappear.

According to this plan, some two million salesmen, and three million other workers somehow engaged in the "trading" process will put on their overalls and report to the production department. Mr. Purdy thinks they would be happier in their new work, with greater regularity of hours and without the rebuffs and discouragements incident to the selling job. Perhaps he is right, though a good many of them would be inclined to argue the point. Certainly there would be need for a major adjustment in many lives. There is also room for question about the willingness of all women

**STANDARD
TOOLROOM
EQUIPMENT**

The new, revised edition of Starrett Catalog No. 25-P is the buying guide of purchasing agents and tool buyers throughout the metal-working industries. May we send you a copy?

THE L. S. STARRETT CO.
World's Greatest Toolmakers
 Manufacturers of Machine Tools
 and Toolroom Standards for America
 ATHOL, MASS., U. S. A.

Use Starrett Tools

BUY THROUGH YOUR DISTRIBUTOR

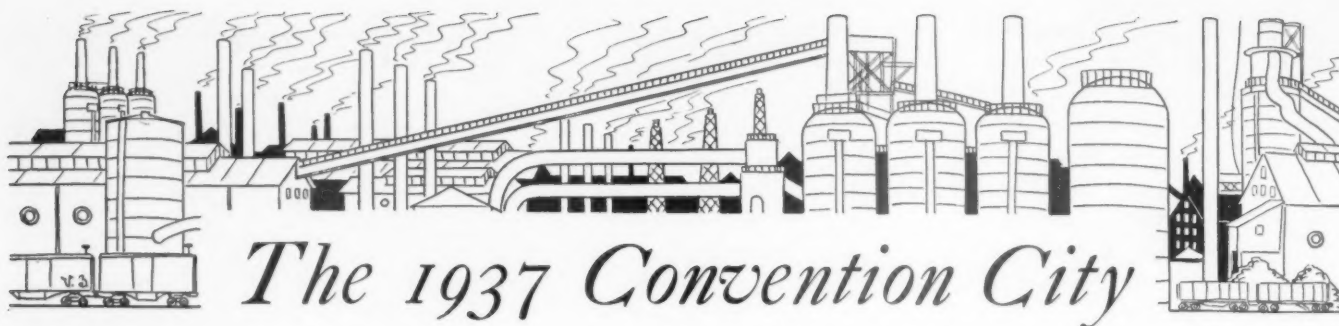
to pick their dress styles and materials from catalogs in order that the demand for cloth and clothing manufacture could be bulked. Mr. Purdy makes out a persuasive case, and further hedges his suggestion by pointing out that the plan can be resultful even if it is not observed 100%.

The purchasing process is naturally of interest to professional buyers. Departing radically from our accustomed practice in regard to consumer goods and consumer buyers, it has the essentials of the industrial buyer's price analysis put into action as a buying plan. When collective demand has been added up to impressive quantities, bids

would be invited on the primary raw materials. On the most favorable raw material prices which thus become available to those engaged in the successive stages of manufacture, the processors would be invited to base their costs and bid on the semi-finished product. A similar procedure would be followed for each successive step, up to the final product, and the consumer price would be arrived at by integrating these bids received all along the line.

Now presumably the quantity represented by this mass-consumption will be substantially in excess of the capacity of any one bidder

Continued on page 47



PIPES of PITTSBURGH

F. R. KING

Purchasing Agent, Colonial Supply Co., Pittsburgh

(Photographs by courtesy of Spang, Chalfant & Co., Inc.)

LOCATED ON Pine Creek, in Etna, a suburb of Pittsburgh, is the oldest operating pipe mill in America.

When the original mill was erected, the surrounding hills were densely clad with tall pines and stately oaks; the valley rang with the music of many song birds. According to tradition the employees of the old mill often carried their rifles to and from work and, with accurate aim characteristic of the pioneer, plenty of game was obtained.

In 1828, H. S. Spang & Son started operation of what was known as the Etna forge which has since been developed by continuous operating improvements into the present expansive pipe mills of Spang, Chalfant & Co., Inc.—the welded pipe plants of which are still in the immediate locality of the pioneering building. The production of pipe by this concern has been continuous since 1840.

The Etna mill is notable for three important things. It is said to be one of the first mills in the vicinity to apply water power successfully; it was the first mill west of the mountains in which pipe was made; it was in this mill that the "invisible fuel," natural gas, which gave Pittsburgh a tremendous impetus,

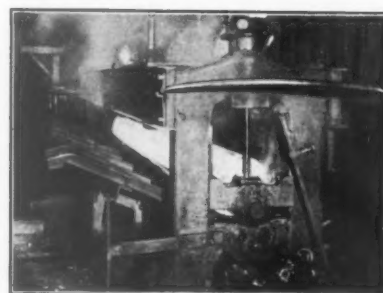
was first successfully used for the purpose of reducing ores and manufacturing merchant iron. Natural gas, introduced in 1875, was piped through a six-inch main from the Butler oil fields.

When the gas line was completed and first lighted at a large stand pipe near the company's mill, the whole town and people from miles around turned out to see the "deadly stuff," as it was then termed, burning.

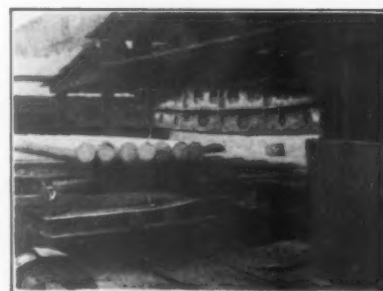
The primitive method of conveying water was no doubt the hollow "bamboo," followed by clay or "pottery" segments; then the lead and bronze of Grecian and Roman origin. The earliest records given for iron tubes is the English process of bending iron plate and hammering the edges over a rod or mandrel. Then, in 1812, Osborne, an Englishman, patented machinery for welding and making barrels for firearms, followed rapidly by improved methods.

In the early settlements of American colonization "Wood-pipe," made by boring or burning out the center of the logs, was the most common practice for the conveyance of water.

The firm of Morris, Tasker & Morris had probably the first furnace in the United States for manu-



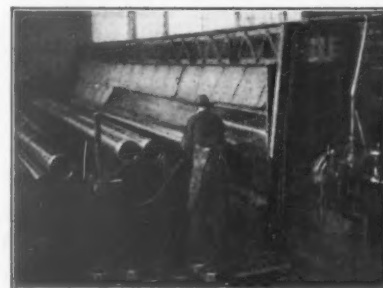
BENDING ROLLS



REHEATING FURNACE



PASSING MANDREL THROUGH TUBES



TUBES COMING FROM VARNISHING MACHINE

facturing butt-welded pipe. It was in the cellar of a shop in Philadelphia about the year of 1830. Other early pipe mills were erected in and around Philadelphia, but Pittsburgh, because of its close proximity to the growing oil industry, the natural advantages of fuel and raw material supplies and transportation facilities, soon became the center of the pipe industry.

Today, in addition to Spang, Chalfant & Co., Inc., the oldest operating pipe mill in America, Pittsburgh has probably the largest tube mill, The National Tube Company, this company having originated with two brothers under the firm name of Flagler & Company about 1865, in the city of Boston, Massachusetts, later locating in McKeesport, Pa. Many other pipe mills, producing iron or steel pipe, are included in the Pittsburgh district and a large portion of the world's pipe production originates in this territory.

While equipment and plant layout varies somewhat, the following

description of operation applies to almost all pipe mills.

Ingots of the finest steel are rolled into flat plate or skelp, which is carefully gauged and inspected to meet requirements for the manufacture of Lap Weld and Butt Weld pipe.

Lap Weld

The skelp for lap welded pipe is charged into a bending furnace and heated to approximately 1,600 degrees Fahrenheit. As it leaves the furnace it passes through scarfing rolls which bevel the edges in preparation for lap welding. In bending boxes and bending rolls it is formed into the shape of a tube and is then conveyed to the welding furnace where it is heated to a temperature of approximately 2,470 degrees Fahrenheit. As the bent form comes from the furnace it passes between welding rolls and over a welding ball. The rolls force the lapped edges of the partially formed pipe against the welding ball, thus exerting a pressure on the lap and making a true fusion of the metals at the weld. The pipe is then straightened in cross rolls, and in this operation much of the scale formed during heating is broken off.

The pipe is rolled onto a cooling table and there numbered. The ends, which are numbered to match the pipe, are then cut off and placed in a hydraulic press and crushed. The flattened ends are then examined as to the weld and quality of materials. If faults are found, the pipe corresponding in number to the numbered end is removed from the table and destroyed, to prevent the possibility of its getting to the trade.

Butt Weld

The Butt Weld process is adapted to sizes of one-eighth inch up to three inches and is a much faster process.

The skelp is charged into the furnace from the rear and is allowed to attain a welding heat. It is drawn from the front of the furnace by grab tongs. Over these tongs a welding bell is slipped and the end of the tongs then engage in a



MANY MAY LOOK ALIKE

*but
there is a difference!*

- It is outstanding performance in competition that proves the true quality and stamina of a champion.
- By outstanding performance and superiority in wear and beauty of write, PINNACLE has proved itself champion in the field of ribbons and carbons. THERE IS A DIFFERENCE!
- Columbia would like to show you just what championship performance IS in ribbons and carbons, with PINNACLE's difference and superiority. And Columbia would like to show you how your profits will be greater with PINNACLE—for the championship is always most profitable!

Write for Details



COLUMBIA

**RIBBON & CARBON
MANUFACTURING CO., Inc.**

*Main Office and Factory
Glen Cove L. I., New York*

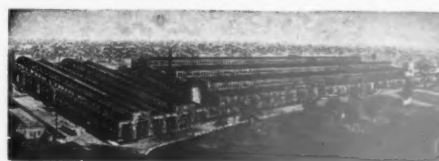
BRANCHES


*New York, Chicago, Philadelphia, Pittsburgh,
Cincinnati, Nashville, New Orleans,
Kansas City, Milwaukee,
Minneapolis*

*— also —
LONDON,
ENGLAND*

*MILAN,
ITALY*

*SYDNEY,
AUSTRALIA*





TRADE MARK

**ALUMINUM OXIDE
SILICON CARBIDE
CORUNDUM
(AFRICAN)
TURKISH EMERY**

Refiners and Makers
of

**ABRASIVE GRAINS
AND
FLOURS**

AMERICAN ABRASIVE COMPANY
WESTFIELD, MASS.



for your money with
**MILFORD
 REZISTOR**
SPECIAL ALLOY
HIGH SPEED STEEL BLADES

For what you now pay for old style tungsten high speed power blades, you can get 33% more cutting with MILFORD REZISTORS. Why? . . . Because you get 33% more REZISTOR BLADES for the same money — and they will cut as much metal, and cut it as fast, as any high speed steel blade made.



Ask your Mill Supply Distributor for further facts and figures on these economical, fast, and accurate blades for cutting tough, hard metals.



dog on an endless chain which pulls the bell into a die-head and the skelp through the bell. As the skelp passes through the bell it is formed and the edges forced together with such pressure as to make the weld. The pipe is then passed through a series of sizing rolls. After this it is uniformly cooled and passed through a straightening machine in preparation for a careful examination by trained inspectors before it is sent to the finishing floor.

Seamless Tubes

Blooms made to proper specifications are given an acid pickle, so that any defect will be quickly apparent to the inspectors. These are mainly surface defects which are quickly removed by monstrous chipping machines.

When this process is finished the blooms are heated and then rolled into long round bars which are cut into billets of the proper weights.

The finished billet is then transferred to the reheating furnace while it is still hot. A distinct improvement in quality results from this practice for the reason that it is unnecessary to subject the round to the detrimental effect of the high temperature of a reheating furnace for nearly so long a time as is the case when reheating cold rounds.

When the billet has been heated to a piercing temperature of approximately 2,250 degrees Fahrenheit, it is kicked out of the furnace and is conveyed to the first piercing mill where it is converted into a thick walled tube which must be pierced a second time. If but one piercing were made on the larger sizes of tubes the displacement of the metal would be so great that the steel would be ruptured.

Therefore the second piercing is of vital importance. At the Standard plant the second piercing is done on the largest piercing mill ever built. After the piercing operation the tube passes forward and back twice in a rolling machine, which is known as a plug mill. The tube passes over a mandrel or plug and between two grooved rolls, which establish uniform wall

thickness and the proper weight per foot.

Now the tube goes to the reelers. Here the inside and outside surfaces of the tube are smoothed as it passes between two hardened polished rolls and over a plug which has a smooth surface. The extremely long contact surface of the rolls and plug permits a large overlap of the feed and produces tubes with the smoothest inside and outside surfaces possible.

In the next step, the tube is sized by a series of sizing rolls to its proper diameter, and here also the marks identifying the grade are applied to all casing as it goes through.

The inside surface is carefully examined and the tube is gauged for size before it goes to the straightening machine which is so accurately adjusted that the tube comes out as straight as man and machine can possibly make it.

In cutting-off machines the crop ends are removed and the tube is reamed. In the same machine, the outside edge is chamfered to provide for easy engagement of the starting thread with the coupling when the string is made up in the field.

At this point the tube is given a rigid examination. It is gauged for wall thickness, the inside and outside surfaces are re-examined and the reaming and chamfering checked.

Drill Pipe

To give the ends of the tube a strength equal to that of any other section after it is threaded, they are upset in an especially designed up-setter. This massive machine holds the tube rigid while the punch makes a true upset.

After the tube is upset, it is charged into a continuous heating furnace, where it is heated to the proper temperature for quenching. Quenching is a well-recognized practice in the metal arts, and is done to refine the grain structure of the steel. After the quenching, the tube is charged into a drawback furnace and held there for the proper time at the proper temperature, to relieve the stress incident to quench-

ing and to reduce the hardness to that adapted to machining and service. When the upset tube is discharged from this furnace, it is allowed to cool in the air.

Now the upset is inspected for length and perfection, inside and outside diameter, and the tube is rolled and examined for straightness.

The Finishing Floor

Inspection follows inspection all through the finishing department. After the tubes are threaded, the threads are tested with a ring gauge which has been checked with a gauge certified by the U. S. Bureau of Standards. The threads are kept within certain very limited tolerances at all times, and are constantly checked for depth, pitch, and taper, to be sure of proper make up in the field.

Couplings, the blanks for which are cut from long lengths of seamless tubes, are made by specially designed modern machines which have a rotating table holding four blanks. When one end is taper-bored, recessed, and chamfered, the table is rotated and the bored coupling blank is taper-tapped at the same time another blank is being bored.

When the couplings are finished, they are subjected to a critical examination. First they are cleaned, then the recess and the chamfering is examined, the alignment is checked, and the threads are inspected to see that they are of the proper depth. Then the coupling is checked for size. In addition to all this, a double taper plug gauge is used to check the taper as a very close tolerance is maintained in all couplings to insure true engagement of the tube threads with the coupling threads. The inside of all couplings are then electro-galvanized to prevent deterioration and galling.

Before the final inspection is made the inside of the tube is blown clean by compressed air. Then a mandrel twelve inches long, of the proper diameter, without being forced or driven, is pushed entirely through the tube and

must pass freely. Following this, the last inside and outside examinations are made.

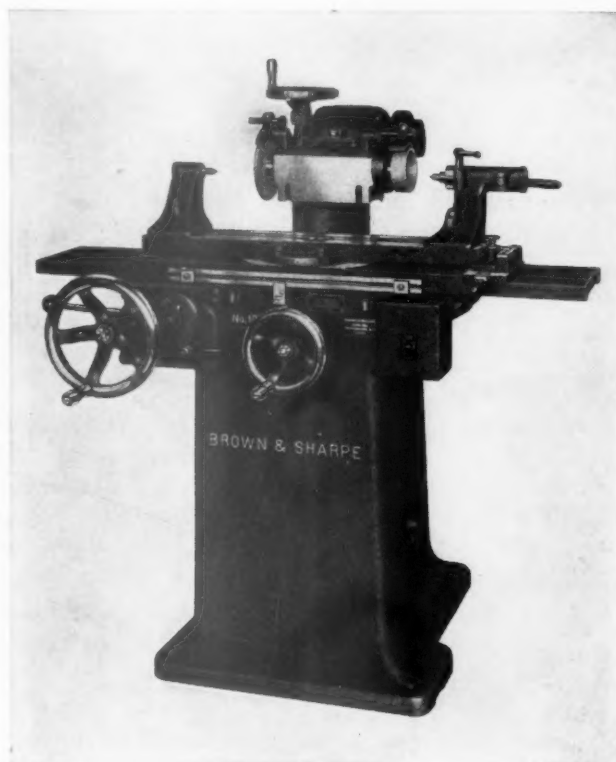
The coupling is now applied to a tube, the threads of which have been zinc greased. It is set up hand tight and is then placed in a special motor driven machine, which sets the coupling up to its final proper tightness.

The tube is now subjected to the proper hydrostatic test to be sure it will more than withstand the pressures encountered in the field. Then it is coated with a special protective covering and thread pro-

tectors are applied to prevent damage to the threads in transit.

The tube is now ready for service.

SAMUEL K. HOSTETTER, for twenty-five years purchasing agent for Pennsylvania State College, was elected treasurer of the College at the semi-annual meeting of the Board of Trustees last month. For the past sixteen months Mr. Hostetter has served as assistant to the president, in charge of business and finance.



No. 10

A New Cutter and Tool Grinder

Important, new construction features for convenient operation and long life assure an **Economical Investment.**

- ... **Single Operating Position**—due to reduced height and location of all controls.
- ... **Motor Driven**—with enclosed controls and wiring.



Let us send circular and specifications of this **advanced design** motor driven cutter and tool grinding machine. Brown & Sharpe Mfg. Co., Providence, R. I.

BROWN & SHARPE

COILED WIRE SPRINGS

WIRE FORM SPECIALTIES



Springfield, Ohio, U. S. A.

*"Where Your Patronage
Is Appreciated"*

MAKE YOUR *Chicago* VISIT A

Real Pleasure

Stay where successful men and women stay—on Michigan Avenue at the Auditorium Hotel where the gallant hospitality of the past meets the modernity of today. Enjoy the fine food, —the large spacious rooms and the



convenience of its "edge of the loop" location.

AUDITORIUM HOTEL

MICHIGAN AVENUE
AT CONGRESS
STREET

GEO. H. MINK
Manager

RATES
WITH PRIVATE
BATH
\$2.50
WITHOUT PRIVATE
BATH
\$1.50

PERSONALITIES in the NEWS

E. H. BROOKS, Purchasing Agent of the Goodyear Tire & Rubber Co., Akron, and associated with the company for the past twenty-six years, has been named Director of Purchases. GEORGE E. PRICE, JR., Assistant Purchasing Agent for the past fifteen years, succeeds Mr. Brooks as purchasing agent, and R. D. CHITTENDEN, formerly manager of the fabric buying division, succeeds Mr. Price as assistant purchasing agent. All appointments were effective January 18th, and apply to the parent company in Akron and all subsidiary plants in the United States and foreign countries.

QUINLEY GRAVES has been appointed to the newly created position of purchasing agent and business manager of John Gaston Hospital, Memphis, Tenn.

JOHN P. DAVIS of Chelsea has been named purchasing agent for the State of Vermont, succeeding BURTON N. SISCO of Brandon. Mr. Davis was Mr. Sisco's predecessor in the office, and has been chairman of the Republican State Committee for the past two years.

NATHAN W. EDSON, formerly purchasing agent for J. J. Grover's Sons Co., and more recently engaged in merchandising work with Filene's, Wanamaker's, and Bliss Fabyan & Co., has joined the commercial division of Doremus & Co., Inc., 50 Congress St., Boston.

TED STONE has returned to his position as purchasing agent for the Spencer-Kellogg Co., Buffalo, after spending more than a year at the company's Long Beach, California, plant.

CLAUDE F. WILLIAMS, Purchasing Agent of the Erwin Cotton Mills Co., Durham, N. C., has been elected to the City Council.

C. E. WALSH, General Purchasing Agent of the Pennsylvania Railroad, and W. W. MACMILLEN, Purchasing Agent of National Malleable & Steel Castings Co., Cleveland, were among the guests of honor at the ninth annual banquet of the Institute of Scrap Iron & Steel, held at the Netherlands Plaza Hotel, Cincinnati, January 15th.

HENRY DAHLQUIST, formerly purchasing agent of the Yellow Sleeve Valve Engine Works, East Moline, Ill., and more recently engaged in a similar capacity with the Universal Cooler Corp., Detroit, has resigned to enter business as a manufacturers' representative in the Detroit territory. Mr. Dahlquist was a charter member of the Tri-City Association, and has been affiliated with the Detroit Association since 1932.

ERVIN S. JUDKINS has been appointed purchasing agent for the A. J. Oster Co., Providence. He was formerly with the Ashton Valve Co.

HENRY MEYER, formerly purchasing agent for the General Bronze Co., New York, and for the past several years engaged in sales work, returned last month to his former connection. Mr. Meyer is a past president of the New York Association and has for a number of years served as instructor for the purchasing course at the West Side Y. M. C. A.

PAUL ABBETT has been appointed purchasing agent for the General Paint Corp., Tulsa, succeeding STACEY A. BARNES, who resigned January 1st to join the International Supply Co. of the same city.

MAJ. ELLSWORTH KELLEY has been named Director of Supplies for the City of Scranton, Penna., under a new ordinance authorizing the appointment of a purchasing

executive. Major Kelley has formerly served the city as chief investigator for the city solicitor's office.

J. T. TURBEVILLE, formerly purchasing agent for the Houston (Texas) Lighting and Power Co., has been appointed head of the city purchasing department, with the title of Assistant Purchasing Agent. He succeeds HOLLIS JACOBS, who has been transferred to the position of assistant civil service director.

A. B. ACKER has resigned as Director of Purchase for the City of New York to resume his private business interests as president of the Empire State Hardware & Supply Co. Mr. Acker is a past president of the New York Association, holding that office in 1922 when he was purchasing agent of the Packard Motor Car Co. of New York.

FRANK T. SWAIN, formerly purchasing agent for the Lehigh Navigation Co., Philadelphia, has been named vice president and treasurer of the Wyoming Valley Collieries Co., at Scranton, Penna.

GEORGE LEBERT, JR., formerly purchasing agent for the Crawford-McGregor & Canby Co., Dayton, has been named purchasing agent of the Standard Register Co.

K. H. SUDER has been appointed purchasing agent of the Akron, Canton & Youngstown and the Northern Ohio Railways, with headquarters at Akron, Ohio.

C. D. YOUNG, Vice President in charge of purchases, stores and insurance for the Pennsylvania Railroad, has been elected to the Board of Directors of the Norfolk & Western Ry.

Mass Consumption

(Continued from page 41)

to supply, since it will in theory approach our total national producing capacity as the plan gets into general operation. Consequently the placing of the business is not



When the shop calls for MORE DUCTILITY

WHEN the call comes for a stock that will take more draws and less anneals, it's well to know that you can get this quality *plus* in Seymour Nickel Silver.

The above tube is an example. This was drawn from a blank of 18% Seymour Nickel Silver to 7-3/8" x 7/8" .014 gauge *without a single anneal*.

Performance like this often turns a loss into a profit when the time on the job is figured. We will be glad to send you samples of Seymour Nickel Silver for test purposes.

SEYMOUR

NICKEL SILVER

THE SEYMOUR MANUFACTURING CO., 55 Franklin Street, SEYMOUR, CONN.
Specialists in Nickel Silver

simply a matter of selecting the low bidder and making the award. Mr. Purdy's plan is that the bidders at or reasonably close to the low figure should receive requisitions up to their full capacity to produce, and that the balance of the business be allotted to the higher bidders in proportion to their capacity and their closeness to the successful bid, but all at the stated contract price. Of course, if they do not care to accept the business at that figure, they are at liberty to devote their energies to some other line of production in which they may be more efficient.

Just at this point a suspicion enters that the carefully established buyers' market that is the basis for the new prosperity may conceivably break down. And if the mass-demand is not translated actually into terms of mass-production the basis of increased employment and purchasing power is knocked out

from under the plan. We'll let Mr. Purdy give you the answer to that one and to your other questions. He has thought of most of the questions himself, and has an answer for them in his book.

It's an unfamiliar picture, or social-scape, that he paints, but in that picture there are many very attractive and intriguing elements. We have seen so many developments recently in Washington and elsewhere that we hesitate to dismiss this one on the grounds of unfamiliarity alone. It's better than a good many we have studied, and it may be that, by long and gradual process, we may come to something of the sort. Dr. Moulton of Brookings says that the industrial producers could bring about a comparable result, but that they are not willing to do it. Mr. Purdy says that consumers, as buyers, can do it. Perhaps they will be willing.



ARMSTRONG

GENERAL CATALOG B-35

ARMSTRONG

Tool Holders—for Lathes, Planers, Shapers, Turret Lathe Tools, High Speed Steel, Carbide Cutters, Lathe Dogs, Clamps, Ratchet Drills, Open End Wrenches, Socket Wrenches, Ratchet Wrenches, Star Drills, Machine Shop Specialties.

Write Today for Catalog B-35

Complete line of quality tools including the Armstrong System of Tool Holders used by over 96% of the machine shops and tool rooms.

ARMSTRONG BROS.

ARMSTRONG BROS. TOOL CO.,
"The Tool Holder People"
303 N. Francisco Ave., Chicago, U. S. A.
Eastern Warehouse and Sales Office:
199 Lafayette St. New York City

Stocks and Dies, Receding Pipe Threaders, Pipe Cutters, Pipe Reamers, Pipe Vises, Pipe Tongs, Pipe Wrenches.

Security Issue Printing

WE OFFER YOU the facilities of our complete modern plant—Speed and accuracy in the production of REGISTRATION STATEMENTS AND PROSPECTUSES—The knowledge and experience of one of the oldest firms specializing in CORPORATION, FINANCIAL and LEGAL PRINTING.

Appeal Printing Company

INCORPORATED

130 Cedar Street NEW YORK CITY Worth 2-3242-3-4

GOOD BEDS
GOOD FOOD

ALBERT
PICK
HOTELS

OVER 4500 MODERN
ROOMS IN 8 STATES

In the Middle-West stop at Albert Pick Hotels for pleasant surroundings, service, and food. All moderately priced.

CHICAGO, ILL. GREAT NORTHERN HOTEL
DETROIT, MICHIGAN..... TULLER HOTEL
DAYTON, OHIO..... MIAMI HOTEL
COLUMBUS, OHIO..... CHITTENDEN HOTEL
COLUMBUS, OHIO..... FORT HAYES HOTEL
TOLEDO, OHIO..... FORT MEIGS HOTEL
CINCINNATI, OHIO.. FOUNTAIN SQUARE HOTEL
CANTON, OHIO..... BELDEN HOTEL
INDIANAPOLIS, INDIANA..... ANTLERS HOTEL
ANDERSON, INDIANA..... ANDERSON HOTEL
TERRE HAUTE, INDIANA. TERRE HAUTE HOUSE
ASHLAND, KENTUCKY..... VENTURA HOTEL
OWENSBORO, KENTUCKY. OWENSBORO HOTEL
JACKSON, TENNESSEE. NEW SOUTHERN HOTEL
ST. LOUIS, MO..... MARK TWAIN HOTEL
WACO, TEXAS..... RALEIGH HOTEL

THE WORD PICK SHOULD ALWAYS REMIND YOU OF ALBERT PICK HOTELS

Among the Associations

(Continued from page 37)

Speaker: Dr. William Trufant Foster, author and economist, formerly president of Reed College, Portland, Oregon, "The Business Outlook for 1937."

Bristol, Conn.—Inspection visit of the Connecticut Association, at the plant of the Ingraham Co. Dinner meeting at Endee Inn. Speaker: Prof. Saxon of the Yale School of Business Administration, New Haven, "Prices and their Relation to Purchasing."

Birmingham—Meeting of the Birmingham Association, at the Redmont Hotel. Speaker: C. A. Kelley of Riverside, Cal., President of the N.A.P.A.

JANUARY 27

Rochester—Annual Junior Informashow of the Rochester Association, at the Hotel Sagamore, featuring an all-day exhibit of industrial products and materials. Curt Hart was chairman of the general committee, assisted by Messrs. Gore, Knapp and Bayer, *Tickets and Registration*; E. B. Robinson, *Booths and Power*; H. Braunschweig and W. T. Roach, *Reception*; Harry Cooper, *Head Table*; and John Harbison, *Special Invitations*.

Luncheon meeting. Speaker: Lewis A. Jones, former president of the N.A.P.A., "A Salesman Looks at Purchasing."

Dinner meeting. Speaker: Dr. Nathan Isaacs, Professor of Business Law, Harvard University Graduate School of Business Administration, "The Legal and Economic Aspects of Present Day Legislation."

JANUARY 28

Tulsa—Open meeting of the Tulsa Association, at the Tulsa Chamber of Commerce. Speaker: George A. Renard of New York, Executive Secretary of the N.A.P.A., "The Robinson-Patman Act."

JANUARY 30-31

St. Louis—Meeting of the Executive Committee, N.A.P.A., at the Coronado Hotel.

Paradox in Textiles

(Continued from page 13)

mill operators. If you buy goods for forward delivery, you will find the following clause stamped on the acknowledgment:

"Price on any portion of this contract, upon which title has not passed is subject to adjustment by the amount that seller's cost if increased or decreased by any Federal legislation affecting wages or hours of labor or hours of operation, enacted thereafter, or by similar State legislation affecting a majority of the active cotton spindles in the United States. Any such adjustment shall be limited to ten percent of the contract price and with respect to weekly operating schedules shall be measured from forty labor hours and eighty loom hours.

"Deliveries under this contract may be prorated, and balance then due extended, to the degree necessitated by Federal or any State legislation affecting seller's production. Such proration and

extension shall be measured from weekly operating schedules of forty labor hours and eighty loom hours."

If the invoking of this clause is going to become necessary, all kinds of complications may ensue. There are several mills in the South running 3 shifts or 120 machine hours. If hours are cut to 30 or 36, the buyer with a contract with one of these mills is going to be penalized severely. When the NRA clause was invoked in 1933, mills were very reticent about disclosing costs to buyers; in fact, the increases were arbitrarily set by committees on each construction regardless of the individual mill, and much injustice was done.

Although this clause was accepted by trade associations in the garment and converting trades, already murmurs are being heard against it. The following from the *Daily News Record* of January 20, 1937 illustrates this:

JOBBER SAYS HE DOESN'T WANT TO SIGN "BLANK CHECK"

AN IMPORTANT wholesaler states that his buyers have been meeting with rebuffs from a number of houses, when inquiring regarding the present wages and hours which mills are paying.

"We are told that this is none of our business," explains the speaker.

"Each of our buyers asks the question about the basis of hours and wages today because we are expected to buy goods with clauses that protect the mills in the event of legislative action causing a reduction in hours or an increase in pay. We are willing to sign these orders, we feel that the mill is entitled to this protection, but we feel that it is our business to find out on what basis this clause is written.

"Does the clause mean a shortening of hours from 40 hours per week, or does it mean a shortening from 50 hours per week, which would be true in quite a few instances? Does it mean an increase in pay from code minimum wages, or does it mean an increase from some lower basis established since the code?

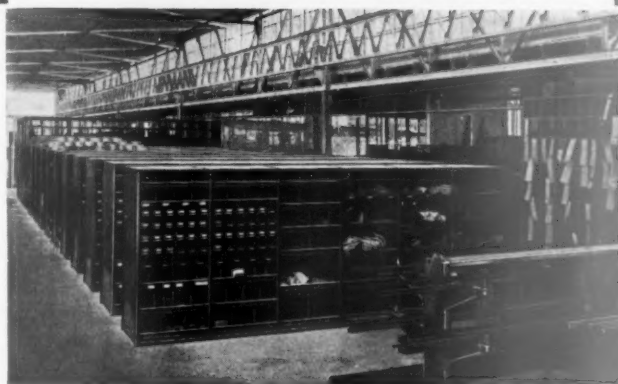
"We do not feel it is unreasonable that we ask this information—and we feel that in all fairness, when we are willing to buy with the protective clauses the mills owe it to us to indicate clearly the basis on which we are making such purchases. Otherwise, these clauses represent a blank check—and we are signing this blank check, when we buy without knowing the basis from which any adjustments will be made later, in the event of legislative action causing such changes."

Some others have voiced their disapproval of "profiteering" in textiles by stating that they were going to buy Japanese goods, a practice that they had refrained from before for patriotic reasons. What a strange paradox it is, that the foreign textiles against which the hue and cry of the textile trade has been raised for the past five years, may be the added supply needed to stabilize this market!

But all this is of little avail to the industrial buyer because the Oriental merchandise is mostly of lightweight bleached constructions in narrow width, and not adaptable to industrial specifications.

Opinion is divided as to how long the boom in cotton textiles will last. Some predict several years, others feel equally strongly that it will be "hoist by its own petard" before summer. But do not let the pitfalls of the past blind you to the realities of the present. For the little pigs are going to market, many thousand strong.

CUT STORAGE COSTS



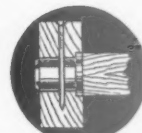
With LYON STEEL SHELVING

● In the stockroom of every industry Lyon Steel Shelving is helping to conserve space, save material handling time, and reduce storage cost. A Knitting Mill—right in the heart of Georgia's lumber country—standardized on Lyon Steel Shelving because of more efficient operation, reduced fire hazard, and important saving in maintenance cost. Lyon Shelving is standardized, all parts are interchangeable. An installation made today may be added to, or rearranged, at any time . . . with absolute assurance that all parts will fit perfectly. Why not let a Lyon representative check cost-cutting possibilities in your stock, stores or tool storage department. There is no obligation.

LYON METAL PRODUCTS, INC.
3302 River St. AURORA, ILL.

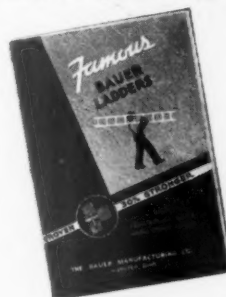
BUY LADDERS on Approved "Specs"

Your Safety Engineer likes to see such things as ladders in blueprint and specification form. Then he knows what to approve.



That is why this special edition of the new BAUER LADDER Catalog has been made with RED "blueprint" pages alternating with photographic pages. Definite specifications and detailed design and construction features tell the whole story completely.

BAUER Countersunk rungs and double-dipped tenons
30% STRONGER

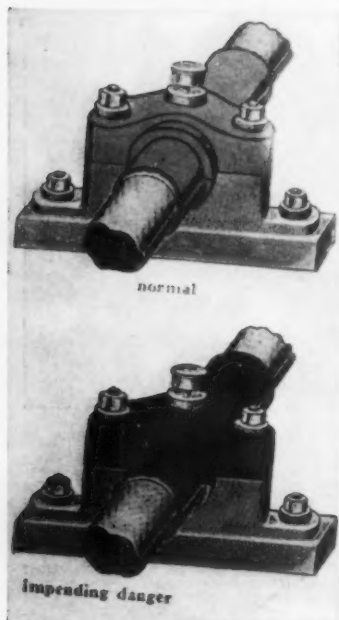


Clearly described are the Countersunk Rung and Double-Dipped Tenon features by which BAUER LADDERS give a 30% greater factor of safety.

Send for your copy of this unusual catalog and engineering proof that BAUER LADDERS are 30% stronger.

BAUER MFG. CO., WOOSTER OHIO

NEW PRODUCTS & IDEAS



HEAT INDICATING PAINT

No. 351

A NEW line of paints has the property of changing color when exposed to heat, thus providing a visual warning of serious temperature deviations in bearings, housings, and other machine parts subject to friction, requiring lubrication, carrying electric current, or subject to damage through overheating; and also useful as an indicator in production operations where heat is used to make a perfect seal and where lack of sufficient heat will therefore result in imperfections and rejections. One series embracing seven of these paints is retroactive in its color change, and will retain this property for from 25 to 50 color changes. Another series of five paints is subject to permanent change and requires recoating after each change. They are prepared for interior and exterior use, and retain their color properties for 12 months. Each of the color changes is positive, and they are keyed to a range of from 104° to 464° F in the retroactive colors and from 300° to 734° F in the permanent change paints, with a safety margin of 25°. The color changes are attention compelling and

are visible from long distances, thus helping to prevent accidents and damage that would otherwise entail serious repair expense and loss of time if not detected in time.

See coupon below

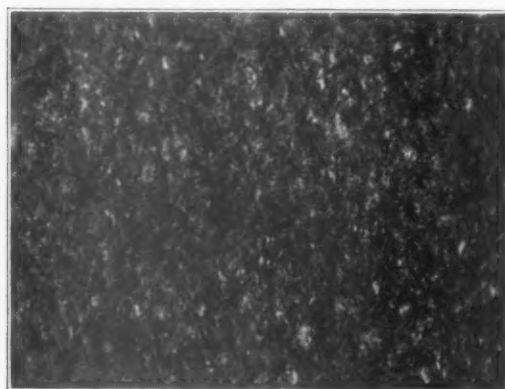


SNOW PLOW

No. 352

THIS new model tapered blade adjustable plow is available in two sizes, adapted for use with 1½ ton and 2 to 3 ton trucks. The blade is carried on adjustable, self-locking, spring mounted casters with roller bearings, thus reducing the frictional load on the truck and retaining maximum power for snow removal. The tapered design, being wider at the discharge end increases the capacity for handling snow as compared with straight designs of comparable size. Provided with clear-vision hydraulic lift and automatic safety trip. There is an adjustment for plowing angle, vertical pitch, and clearance to suit conditions, and the hinge and swivel arrangement is such as to distribute the thrust evenly along the entire length of the moldboard and permit the plow to conform to the contour of the road.

See coupon at left



No.
353

NEW GALVANIZED SHEET TAKES PAINT OR BAKED FINISHES

A GALVANIZED sheet that can be painted or finished with ordinary baked processes, without the necessity for previous etching or weathering to provide a bond, is now available with the base metal either pure iron, plain or copper bearing steel, and stretcher leveled if required. The forming qualities of the new sheet are the same as those of standard galvanized sheet, and it can be soldered satisfactorily using hydrochloric acid as a flux. The process involves treatment of the sheet with phosphoric acid solution, which produces a finely crystalline phosphate coating, slightly granular in nature, which is an integral part of the sheet, is neutral to paint, and keeps the paint from direct contact with the zinc surface. If cleaning is required after fabricating operations and before finishing, organic cleaners are preferred, as

PURCHASING

11 West 42nd St.
New York, N. Y.

Please send complete data on the New Products listed by number below:

☐ ☐ ☐ ☐ ☐ ☐

Name.....

Company.....

Address.....

City.....State.....

alkaline cleaners will attack this surface. In the application of baked finishes, a suitable priming coat is recommended, and the baking temperature should not exceed 450° F, particularly if the baking time exceeds fifteen minutes.

See coupon page 50



OZONE GENERATOR

No. 354

AN OZONE unit for attachment to individual ducts of a heating, ventilating, or air-conditioning system is now available. Heretofore, such equipment has been either for central installation or of a portable nature to be plugged into an electric circuit in a particular room. The new arrangement permits ozonation of the air serving a particular room or section of a building in the duct before distribution, and can thus serve any designated part of a building without the use of portable models. It is made in three sizes, having capacities of 3,000 to 5,000 C. F. M. It is equipped with rheostat and meter for regulating purposes.

See coupon page 50



AIR CONDITIONING UNITS

No. 355

THIS NEW LINE of unit air conditioners is available in a range of five models ranging in capacity from 300 to 11,000 cu. ft. per min., and in refrigeration capacity from 2 to 50 tons. All sizes are available in either the vertical, floor mounted type or the horizontal, ceiling-suspended type. The units are built on field-tested standardized designs. Each element is a complete and separable section in a compact cabinet, making installation and assembly simple and speedy. One section contains the complete fan assembly with motor; another the complete coil, of high efficiency copper-finned type and spray type humidifying element with hygrostat control and self-cleaning nozzles; another the base and cleaning elements. Any section may be shipped and handled separately. A complete air conditioning job, including cooling and dehumidifying, heating and humidifying, cleaning and air circulation, can be accomplished by these units. They are also available without the humidifying and heating elements. All moving parts are readily accessible

BUY



● A Northern Kraft Tape with a special glue formula and "TREAD" Gumming account for its superior quality and many exclusive advantages.

Sterling "TREAD" GUMMED TAPE

THE GUMMED PRODUCTS CO.

OFFICES TROY, OHIO MILLS
MAKERS OF TROJAN GUMMED TAPE
Sales Branches: Chicago, Cincinnati, Cleveland, Los Angeles, New York, St. Louis

GEARED

to meet the Urgent demands OF YOUR PRODUCTION LINE



Consider these points when you look for a dependable source of spring parts:

- INTELLIGENT HANDLING OF SPECIFICATIONS
- PROMPT, CERTAIN ACTION IN TOOLING UP
- DELIVERIES TO MEET YOUR PRODUCTION
- UNIFORM QUALITY FROM START TO FINISH
- ONE SOURCE OF SUPPLY FOR MANY PRODUCTS
- EFFICIENT PLANNING FOR GREATEST ECONOMY

Controlled quality from steel to finished part is Barnes' answer to the day's demand for production and still more production. A modern steel mill owned and operated by Barnes is capable of producing stock for almost any requirement, every day. Large amounts are always on hand for quick conversion into the kind of spring you need.

The Wallace Barnes Company • BRISTOL, CONNECTICUT

DIVISION OF ASSOCIATED SPRING CORPORATION
SPRINGMAKERS FOR MORE THAN THREE QUARTERS OF A CENTURY

Barnes-made SPRINGS

WHAT GOOD ARE "DEVIL" CHAINS?

They're of no use to you, unless you're in the deep-sea fishing industry. Sometimes we furnish devil Chains equipped with wire-rope "lizards." We tell you this simply to show that we make EVERYTHING in Chain. And our Chain customers, in every field of commerce and industry, always get A-No. 1 *quality* because of "McKay's 50 years of knowing how."

Send your Chain inquiries or orders to . . .

THE MCKAY COMPANY

McKAY BUILDING PITTSBURGH, PA.
(Formerly U. S. Chain & Forging Co.)



Bituminous Coal

MINES: Scalp Level, South Fork, Hastings and La Rayne Districts of Penna., and Fairmont District of West Virginia.

SIZES: Lump — Egg — Nut — Pea — Stoker — Mine Run—Especially Prepared Coal for Pulverizing.

CORTRIGHT COAL COMPANY

PENNA. BLDG.
PHILADELPHIA

ONE BROADWAY
NEW YORK

KRON

DIAL SCALES
for industry's every need

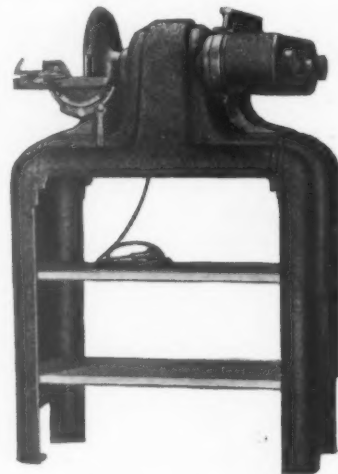
THE KRON CO.
BRIDGEPORT CONN.



without dismantling. The cabinet is of heavy steel frames, coated inside and out with water-proof and sweat-proof insulation. The outside surfaces are finished in rust-resisting enamel to present a smooth and attractive appearance.

See coupon page 50

COMBINATION SANDER

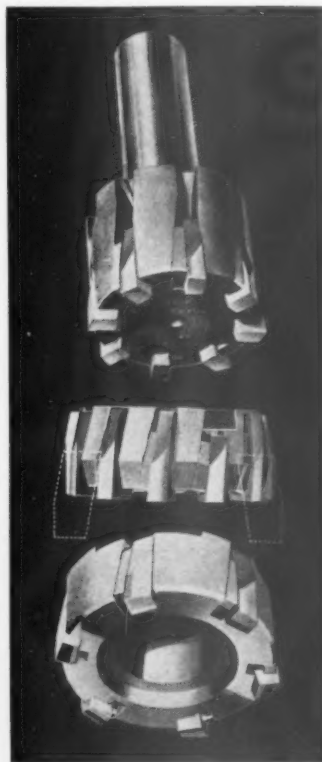


No. 356

THIS combination machine embodies a belt sander adaptable to flat or curved surfaces, for light snagging, polishing, and grinding on metal, fiber, molded plastics, ceramics, bone, and other materials; and a disc sander, with abrasive mounted on a special alloy steel disc, heat treated and processed to eliminate distortion, and with mitre gauge and center pins to insure accuracy of work. It is furnished with a $\frac{1}{2}$ hp, single phase, split phase, 110 volt motor.

See coupon page 50

BORING TOOLS



No. 357

CORE DRILLS andreamers are now available in inserted blade design. The housing is of forged, heat-treated alloy steel; the blades of high speed steel, Stellite, or cemented carbide tipped. The double-tapered blades are positively locked in the housing with a tapered and serrated wedge, and can be adjusted outward one or more serrations

as required to provide metal for grinding. The lengthwise taper prevents the blade from pushing down or back from the thrust of the cut, and the sidewise dovetail taper holds it securely in the locating slot.

See coupon page 50



TUBE CLEANER

No. 358

A NEW LINE of small air turbines, in two-stage, four-blade units, has been incorporated in this tube cleaner assembly for use in tubes from $\frac{3}{8}$ to $1\frac{1}{4}$ inch inside diameter. The cylinder is an integral part of the cleaner housing. There are five rotating parts, including the rotor and four blades. Maximum operating speed is 6,000 rpm. on 80 lbs. air pressure, developing approximately double the power of earlier models and capable of removing incrustations of considerable thickness in the small tubes. The air-hose attachment is located at the rear end.

See coupon page 50



LADDER SHOES

No. 359

THESE TOP and bottom ladder shoes fit standard extension ladders. The bottom unit provides a firm and flexible footing for the ladder, standing at any practicable angle, and is particularly effective in preventing side slip. The bottom of the shoe is corrugated to grip the surface and to conform to irregularities in footing. The top shoe provides additional security by providing a firm support at practicable angles against either even or irregular surfaces.

See coupon page 50



ROPE CLAMP

No. 360

IMPROVED design in this rope clamp includes the introduction of a spring under the release lever. One end is secured solidly as shown, and the rope is threaded through the other. The lower strand of the doubled-back rope is pulled through the clamping jaw as desired, but reverse movement is prevented except when the jaw is released by means of the lever at the right. The clamp is adaptable for ropes from $\frac{1}{8}$ to $\frac{3}{8}$ inch in diameter, and is available in solid brass or in malleable iron, cadmium plated.

See coupon page 50

FEBRUARY 1937

THE CONTINENT'S IN THE PALM OF YOUR HAND



When You Ship by THE
ONLY Nation-Wide...

AIR EXPRESS 2500 Miles Overnight

Just point your finger and the delivery is made, because

1. Only nation-wide Air Express gives day and night service direct to 216 cities in the United States and Canada, to Honolulu, Guam, Manila, and to 32 Latin-American countries.
2. Picks up and delivers, door-to-door, without extra charge, in all cities and principal towns.

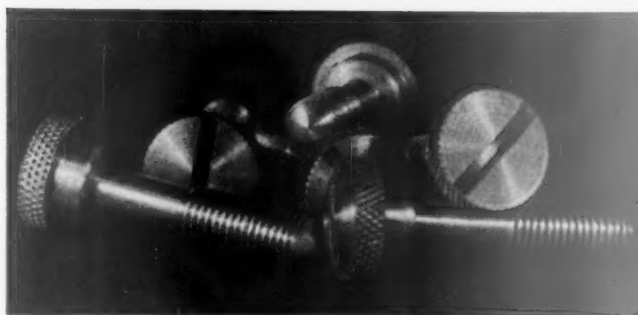
3. Makes quick connections with fast Railway Express trains
4. One organization. One responsibility. One waybill.

Cost: low, economical. Write for "How to Profit with Air Express." Address General Sales Dept., Railway Express Agency, 230 Park Ave., New York, N. Y. For service phone any Railway Express office.

AIR EXPRESS

DIVISION

RAILWAY EXPRESS AGENCY



"Finish"

These thumb screws for butt stocks were made for a prominent gun manufacturer. Besides clean threads and accurate diameters, the job called for a smart knurled and slotted head to harmonize with the artistic design of the gun. As carrying out design harmony in a product is as much a part of Peck Service as the purely engineering side, the result above was eminently satisfactory to the customer. If interested in high grade screw machine work, by all means

SEND FOR THE PECK CATALOG

—a book that is virtually a manual. No charge; glad to send it.

PECK SPRINGS AND SCREW MACHINE PARTS

The Peck Spring Co. - 10 Walnut St. - Plainville, Conn.

PAGE 53

*Made Right
Priced Right*

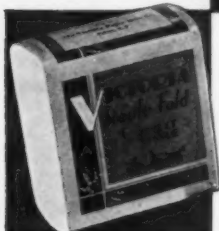
VICTORIA SINGLE FOLD

White, absorbent, sanitary. 1000 single fold sheets, $4\frac{1}{2}$ " x 5", for dispensing two sheets at a time from cabinets. (See below)



BLACK CORE ROLL

White or manila, silky in texture, in either 2000, 3000, or 4000 sheet rolls. Three sizes: $4\frac{1}{2}$ x $4\frac{1}{2}$, $4\frac{1}{2}$ x $4\frac{3}{4}$, $4\frac{1}{2}$ x 5. (See left)



VICTORIA DOUBLE FOLD

White, manila or full bleached. 800 inter-folded sheets per package, dispensed two sheets at a time from cabinets. 125 packages per carton. 3 sizes: 4 x $5\frac{1}{4}$, $4\frac{1}{2}$ x $5\frac{1}{4}$, and 5 x $5\frac{1}{4}$. (See right)



Let Us Send You Samples

Victoria TOILET TISSUES

VICTORIA PAPER MILLS COMPANY

Founded 1880

FULTON,



NEW YORK

*"Efficiency is . . . doing whatever must
be done in the right and logical way"*

... Statement by F. W. Lingley
in Purchasing for Dec. 1936

*The same
holds true in cleaning!*

It is why our Field Service Man insists *first* on studying your cleaning needs . . . the work to be cleaned, the grease, oil, rust or other material to be removed, the conditions under which cleaning is to be done, previous operations, subsequent operations, etc., before prescribing the Oakite material and method to be used.

That is why Oakite cleaning is efficient every time, all the time. Write.

Manufactured only by
OAKITE PRODUCTS, INC., 54 Thames St., New York, N. Y.
Branch Offices and Representatives in All Principal Cities of the U. S.

OAKITE

SPECIALIZED INDUSTRIAL CLEANING MATERIALS & METHODS

WHEELBARROW

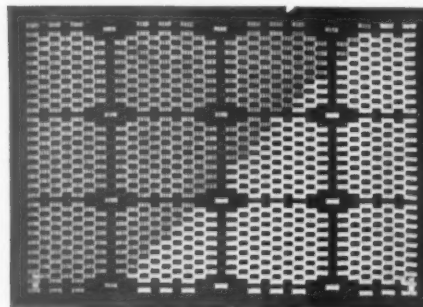


No. 361

FOR EASE in loading and handling loose material, this barrow has been developed with a square front lip that can be pushed under a pile of the material to be moved. The body is hinged on the two ends of a C-frame, which in turn is supported on the two-wheel axle so that the center of a load will come directly over the wheels. There are two U-shaped handles, tied together, attached respectively to the body of the barrow near the front lip and to the back wall. The former is used in loading and moving; the latter to bring the body to a carrying position and in dumping the load. Body capacity is 4 cu. ft.; width, $32\frac{1}{2}$ in.; length, 49 in.; height, 42 in.

See coupon page 50

**FLOOR
MAT**



No. 362

RUBBER LINKS are assembled on rods of spring wire in this new floor mat, so designed that there is no tendency for the rods to cut through. The end nosing on all four sides also contains a reinforcing bar of tempered steel. Each link is provided with four sharp ridges on top and bottom, adding to the non-slip feature and permitting the mat to be used on either side. There are eleven available colors, and the mats are made to specification as to size, color, and pattern.

See coupon page 50

**POLISHING
MACHINE**



No. 363

THIS PORTABLE, flexible-shaft unit for polishing and grinding is mounted on a low frame equipped with casters. It is furnished with extension cord and plug for connection to a power source, and with a six-foot flexible shaft. The motor is a repulsion-induction unit of $\frac{1}{2}$ hp., operating at 3,450 rpm.

Advertising in this issue of

PURCHASING

ABBOTT BALL CO.....	16	THE LESHNER CORP.....	39
AMERICAN ABRASIVE CO.....	43	LUNKENHEIMER Co.....	Second Cover
AMERICAN OIL & SUPPLY CO.....	39	LYON METAL PRODUCTS, INC.....	49
AMERICAN SANITARY RAG CO.....	39	MANUFACTURERS SUPPLY CO.....	39
AMERICAN TELEPHONE & TELEGRAPH CO.....	3	MCGILL COMMODITY SERVICE, INC.....	34
AMERICAN WIPER & WASTE MILLS.....	39	McKAY COMPANY.....	52
AMERICAN WIPING CLOTH CO.....	39	MID-STATES GUMMED PAPER CO.....	37
APPEAL PRINTING CO.....	48	NATIONAL INDUSTRIAL DISTRIBUTORS' FOUNDATION..	25
ARMSTRONG-BLUM MFG. CO.....	55	NEENAH PAPER CO.....	5
ARMSTRONG BROS. TOOL CO.....	48	NORTON COMPANY.....	6
ARMSTRONG SANITARY WIPERS CO.....	39	OAKITE PRODUCTS, INC.....	54
AUDITORIUM HOTEL.....	46	PECK SPRING CO.....	53
THE WALLACE BARNES CO.....	51	ALBERT PICK HOTELS.....	48
BAUER MANUFACTURING CO.....	49	RAILWAY EXPRESS AGENCY.....	53
BLISS & LAUGHLIN, INC.....	35	REPUBLIC RUBBER CO.....	23
BRISTOL BRASS CORP.....	4	REPUBLIC STEEL CO.....	28, 29
BROWN & SHARPE MFG. CO.....	45	JOSEPH T. RYERSON & SON, INC.....	8
CENTRAL MILLS CO.....	39	SANITARY INSTITUTE OF AMERICA.....	39
CHICAGO SANITARY RAG CO.....	39	SCHEINMAN-NEAMAN CO.....	39
CLARK BROS. BOLT CO.....	4	SEYMOUR MFG. CO.....	47
COLUMBIA RIBBON & CARBON MFG. CO., INC.....	43	THE C. E. SHEPPARD CO.....	40
CONTAINER CORPORATION OF AMERICA.....	7	SIGNODE STEEL STRAPPING CO.....	21
CORTRIGHT COAL CO.....	52	SIMONDS SAW AND STEEL CO.....	31
DELIA WASTE PRODUCTS CORP.....	39	S. MORGAN SMITH CO.....	36
EVER READY LABEL CORP.....	55	THE L. S. STARRETT CO.....	41
FRIGIDAIRE DIVISION.....	27	STERLING GRINDING WHEEL CO.....	Third Cover
GODFREY COTTON PRODUCTS CORP.....	39	THOMAS PUBLISHING CO.....	56
THE B. F. GOODRICH CO.....	1	HENRY G. THOMPSON & SON CO.....	44
GUMMED PRODUCTS CO.....	51	VICTORIA PAPER MILLS CO.....	54
HOWARD PAPER CO.....	33	WIPING MATERIALS, INC.....	39
JENKINS BROS.....	Back Cover	YOST SUPERIOR CO.....	46
KRON COMPANY.....	52		



MARVEL

Unbreakable Alloy Steel Body

HIGH SPEED EDGE

HACK SAW BLADES

Genuine 18% Tungsten High Speed Steel Teeth

Patented Integral Weld

"More Cuts—Same Cost"

Combine the finest cutting edge, genuine 18% Tungsten High Speed Steel, with an unbreakable alloy steel body at the same cost of ordinary high speed blade and you have a hack saw blade that price for price outcuts all others—reduces production set-up cost to minimum and means more cuts per dollar.

Write for Circular **Armstrong-Blum Mfg. Co.** "The Hack Saw People"
360 N. Francisco Ave., Chicago, Ill., U.S.A.

• *Ever Ready* **ROLL LABELS** •

FOR SPEED • FOR ECONOMY • FOR CONVENIENCE



308 LABELS ADDRESSED IN AN HOUR

Ever Ready

world's largest producer of printed gummed labels, is HEADQUARTERS for ROLL LABELS! Our twenty-five years' experience serving 30,000 label users has taught us how to attain economy & "streamline" efficiency in ROLL LABELS. We make every kind... for every use!

IDEAS! SEND FOR THE NEW COLORFUL 48 PAGE LABEL BOOK
NO OBLIGATION!

LABEL HOLDER FREE!

Ever Ready **LABEL Corporation**

141 East 25th St. New York N. Y. Dept. P

Separate Lists of the manufacturers of every product

With descriptive information about the products of thousands of them.



A LIBRARY OF INFORMATION

All in one 5,000 page combined directory and collective catalog

A GENERALLY USEFUL AND PROFITABLE SERVICE FOR

Executives
Purchasing Departments
Sales Departments
Engineering Departments

Research Departments
Laboratories
Superintendents
Works Managers

and all others having to do with investigating, buying, specifying, or who require names of American Manufacturers in **any line**, for **any** purpose.

A few of the various services it is now rendering to more than **25,000 concerns** in the U. S.—**All Lines—Everywhere.**

It often saves more per week than it costs per year.

For Purchasing and Purchase Research

The **efficient buyer** needs the names of **all** sources of supply for everything, **instantly** at hand to facilitate securing any requirement;—

Thomas' Register supplies this essential information with an efficiency unequalled by anything else. All manufacturers of any product with descriptive product matter for thousands of them.

In Conjunction With Catalogue Files

Look in the Register for any product you want. It will instantly show you whose catalogues and circulars to consult, or whose to write for—often worth its cost for this service alone.

TR has in excess of 15,000 factual descriptions from manufacturers.

A-Z Blue Section—Instantly shows home office of any concern, or nearest branch office; also its affiliated and subsidiary concerns.

A Capital Rating for Each Name—One of its many valuable features. **The capital ratings are often useful in making the selection desired, either when buying or selling.**

Locating Successors to Discontinued Concerns

Being able to promptly secure a replacement part often saves many times the cost of the part.

Generally Useful to Everyone

Write for details of thirty-day offer.

HOW THOMAS' REGISTER SAVES ON PURCHASES

Because THOMAS' REGISTER is **complete**, it enables the Intending Buyer—

- 1—TO INVESTIGATE a number of sources of supply which will assist him in making the most economical purchase.
- 2—TO ADD new names to his present list of sources of supply.
- 3—TO VERIFY his present prices and bids—thus insuring an economical purchase for all requirements.
- 4—TO MORE QUICKLY LOCATE sources of supply for requirements which are new to his department, thus saving the time lost in referring to numerous catalogues.
- 5—TO INVESTIGATE possible savings which can be effected by substitutions or improvements in present material, machinery, and methods.
- 6—TO RECALL TO MIND products previously presented by a salesman or through an advertisement.

TRY THESE SUGGESTIONS ON YOUR NEXT PURCHASES—WE FEEL CERTAIN YOUR SAVINGS WILL BE SUBSTANTIAL.

THOMAS PUBLISHING CO., 467 Eighth Avenue, New York, N.Y.



DURABILITY

is built into Sterling Snagging Wheels. Their ability to take hard usage and give long service is what makes them the first choice of America's leading foundries and shops.

THE STERLING GRINDING WHEEL CO.

Abrasive Division of The Cleveland Quarries Co.

Factory and Office: TIFFIN, OHIO

• CHICAGO: 912 W. Washington Blvd.

• DETROIT: 101-107 W. Warren Ave.

STERLING  **ABRASIVES**

Scarce as Hens' Teeth

ARE OLD-TIME FOUNDRYMEN LIKE OURS

EVEN outside of the valve industry, experts will examine a Jenkins Valve and admiringly exclaim—"SOME foundry work back of that!" What they actually mean is—*SOME foundrymen!* For an expert knows that it takes masters of the art to turn out castings of Jenkins' quality...even with the great help of Jenkins' scientifically controlled electric furnaces and other modern equipment.

There is just one way you could ever duplicate the flawless perfection of a Jenkins Valve casting. Find a crew of old-time foundrymen like ours. Find a Boss Foundryman



like Mr. Judge, who you see examining work. He learned the trade from his father, who was Jenkins' Boss Foundryman for 40 years. Then get him men like Nickolai who is drawing the furnace...men who have grown up in a valve foundry, who are masters of every job, who could turn out first-class valve castings in an old "pit furnace" if they had to.

Wherever you go in the Jenkins plant you'll see top-notch workmen like these, equipped with modern apparatus and the finest in materials for making a fine valve. They believe a Jenkins Valve to be the best in the World. If it isn't, you can be sure it is not for lack of honest work on their part.

JENKINS BROS., 80 White Street, New York; 510 Main Street, Bridgeport; 524 Atlantic Avenue, Boston; 133 North Seventh Street, Philadelphia; 822 Washington Boulevard, Chicago; JENKINS BROS., Ltd., Montreal, Canada; London, England.



JENKINS VALVES — *made for Lifetime Service*

BRONZE...IRON...STEEL....FOR EVERY NEED

